



**Homes and  
Community Renewal**



# DesignGuidelines

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Purple text is used to indicated substantive revisions incorporated since the July 2020 (Addendum Revision 11.05.2020) edition of the Design Guidelines.

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# Design Guideline Goals and Objectives

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## Intent of the Design Guidelines

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The criteria for these Guidelines have been developed to ensure minimum standards of quality, function and durability of projects funded by the Agency. The goals and objectives of the Design Guidelines are to aid applicants and architects in producing functional, safe, durable, and cost-effective housing that adds value to communities, pride amongst occupants, and promotes healthy living.

Projects should utilize standard materials and construction practices which will yield an attractive and appealing design that can be efficiently built at a reasonable cost. Projects should also be operated and maintained with routine and proactive maintenance.

The Guidelines do not exclude compliance with other criteria that may be required by the project funding source(s) or required by applicable codes, laws or regulations.

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## Application of the Design Guidelines

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The Design Guidelines apply to all projects applying for funding administered by HCR-HFA (4% Tax -Exempt Bonds and Subsidies) or following the Multifamily Finance 9% Competitive Process. The Guidelines apply to new construction, and to the greatest degree practical, substantial rehabilitation projects and historic rehabilitation projects, including historic adaptive reuse projects. For moderate rehabilitation projects, see Appendix A.

All projects covered by these Design Guidelines are required to comply with the Energy & Green Building Requirements of Appendix F, as applicable.

These Guidelines are written primarily for residential occupancies. Nonresidential occupancies shall comply as applicable unless specifically indicated otherwise.

Minor deviations from these requirements will be allowed via Design Waiver Request if necessary to avoid costly structural changes in rehabilitation projects or if they result in a superior design solution. Requests to waive a requirement will be reviewed on a case-by-case basis by the Vice President of the Design Construction & Environmental Unit (DC&E) and/or the respective DC&E Unit Director. Other offices of the Agency will be consulted when relevant. Evaluations of waiver requests will include the appropriateness of the proposed alternative with emphasis on:

- Impact to the residents
- Cost-effectiveness

- Functional appropriateness
- Durability and operating appropriateness
- Impacts on operating costs/efficiency

All waiver requests must be submitted via the Design Waiver Request Form and must be received 30 calendar days prior to each required submission. The Design Waiver Request Form can be obtained online at <http://www.hcr.ny.gov>.

To ensure that the design is coordinated with other applicable submission criteria and program requirements, project applicants and architects should also refer to publications applicable to the funding sources for the project. HCR publications can be obtained online at <http://www.hcr.ny.gov> or from applicable program staff.

Potential applicants and design professionals needing technical assistance on the Guidelines in this manual may contact the Design, Construction & Environmental Unit, or the program managers of the applicable funding sources.

A project's design and construction shall comply with and may not vary from what is represented in the application for funding unless a change is specifically directed or recommended by the Agency. Constructed projects shall not be diminished in quality, including aesthetics, choice of materials, or systems from that proposed and represented in the application for funding unless specifically altered by the Agency at award.

If selected for an award, the applicant is responsible for ensuring that the project's scope of work, as represented by the plans, specifications and other pertinent documents, including any changes agreed to or directed by the Agency, are well defined and coordinated with the cost estimate.

#### **HCR Project Sign:**

All funded projects must provide project signage complying with the HCR Project Sign Specifications and Templates. All guidance can be found online at <https://hcr.ny.gov/hcr-project-sign-guidance>.

#### **Projects with NYC HPD Involvement:**

All projects located within New York City that involve the City of New York Department of Housing Preservation and Development (HPD) funding, site control or approval may comply with HPD criteria for building layout, design, and components in lieu of HCR's Design Guidelines. All Design Guideline criteria that was not met due to conflicts with the HPD criteria, must be presented to and approved by the Agency as a waiver request. This exception does not apply to program threshold, financing or contractual requirements.

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## Common Regulations, Laws and Guidelines

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One or more of the following laws, codes, standards, and other requirements listed below may be applicable to a single project. The applicant is responsible for determining the applicability of each and for complying with all requirements, including standards and guidelines referenced by all applicable building codes and regulations.

Approved variances from applicable requirements obtained from governmental bodies must be provided to HCR in writing upon their receipt.

- NYS Uniform Fire Prevention and Building Code (NYSBC)
- New York City Building Code (NYCBC)
- Energy Conservation Construction Code of New York State
- Energy Conservation Code of New York City
- Multiple Dwelling Law
- [U.S. Department of Housing and Urban Development \(HUD\) Federal Housing Trust Fund Requirement \(24 CFR § 93.301 - Property standards\)](#)
- U.S. Department of Housing and Urban Development (HUD) Fair Housing Act Design and Construction Requirements (24 CFR § 100.205)
- U.S. Department of Housing and Urban Development (HUD) Section 504 Regulations (24 C.F.R. part 8)
- U.S. Department of Justice Americans with Disabilities Act (ADA) 2010 Standards for State and Local Government Facilities
  - See Federal Register 79 FR 29671, 5/23/14 for further HUD guidance
- Federal Labor Standards regulatory requirements (Davis-Bacon Related Acts)
- New York State Labor Law, Industrial Code Rule 56.
- Evaluation and Control of Lead-Based-Paint Hazards in Housing (HUD-1539-LBP, Current Edition and 24 CFR Part 35)
- EPA Renovation, Repair and Painting Rule (40 CFR Part 745)
- New York State Department of Labor Mold Program
- New York City "Guidelines on Assessment and Remediation of Fungi in Indoor Environments"
- US Environmental Protection Agency Mold Prevention in Schools and Commercial Buildings
- US-EPA Current Radon Standards of Practice
  - Soil Gas Control Systems in New Construction of Buildings (CC-1000 2018)
  - Radon Mitigation Standards for Multi-family Buildings (RMS-MF 2018)
  - Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses (CCAH 2013)
  - Radon Mitigation Standards for Schools and Large Buildings (RMS-LB 2018)
- Phase I Environmental Site Assessment ASTM E1527-13, or most current edition.
- NYS Smart Growth Public Policy Act.
- NYSDEC Prohibited and Regulated Invasive Species, 6 NYCRR Part 575.

## Accessibility Requirements, Building Codes and Standards

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The following section is intended to provide general guidance on various accessibility criteria that may be applicable to a project. This guidance shall not be relied upon as a substitute to applicable codes, regulations or standards.

Depending on the size, type and funding sources of a project, differing federal, state and local accessibility requirements may apply. These laws and regulations include, but may not be limited to, Section 504 of the Rehabilitation Act of 1973, the Fair Housing Act, Chapter 11 of the New York State Uniform Fire Prevention and Building Code (NYSBC), Chapter 11 of the New York City Building Code (NYCBC), and Americans with Disabilities Act (ADA).

## Accessible Residential Areas, Terminology and Related Regulations

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Accessibility requirements cited in the NYSBC and the NYCBC are based on the International Building Code (IBC) and its referenced accessibility standard, ICC A117.1 Accessible and Usable Buildings and Facilities. Although both New York State and New York City use similar terms, they have requirements that exceed the minimum requirements of the IBC and ICC/A117.1. The IBC and ICC/A117.1 contain specifications for five types of units: Accessible units, Type A units, Type B units, Type C units, and units with Communication Features. The information below provides general descriptions of the differences between the various types of units. See specific codes and regulations for actual requirements.

### Accessible units

Accessible units represent the highest level of accessibility required by model codes and standards. Accessible units are required in certain residential occupancies that are primarily transient in nature and also in certain institutional occupancies. All required features are put in place and ready for use. Individuals with mobility disabilities should be able to use the spaces and elements within an accessible unit with little or no modification. Accessible units are not generally required under these Design Guidelines, or in multifamily facilities occupied as a residence and one- and two-family residences constructed in accordance with NYSBC or NYCBC. Accessible units defined by ICC/A117.1 differ from Fully Accessible and Adapted, Move-In Ready Units for mobility-impaired residents utilized by some programs administered by HCR. See the definition in the applicable program funding announcement and as described below.

### Type A units

Type A dwelling units are accessible units that are designed to accommodate most persons with mobility disabilities without the need for extensive modification. Most spaces within the unit are accessible and usable. The criteria for Type A dwelling units is very similar to the accessibility requirements for housing in the Uniform Federal Accessibility Standards (UFAS). Type A units are generally not required in multifamily facilities occupied as a residence and one- and two-family residences constructed in accordance with NYSBC or NYCBC. Type A dwelling units which have been fully adapted are incentivized by certain programs administered by HCR (Fully Accessible



and Adapted, Move-In Ready Units for mobility-impaired residents). See the definition in the applicable program funding announcement and as described below.

### **Type B Units**

These requirements are modeled after the U.S. Department of Housing and Urban Development (HUD) Fair Housing Act Design and Construction Requirements (24 CFR § 100.205), specifically the Fair Housing Accessibility Guidelines. Type B dwelling units are minimally accessible. In some instances, the applicable building codes require features and provisions to comply with Type A unit criteria. In some situations, substantial changes may be required to accommodate the disability-related needs of the resident.

### **Type C (Visitable) Units**

Although ICC/A117.1 contains provisions for Type C dwelling units, they are not currently required by the NYSBC and NYCBC. HCR requires certain units to be Visitable under criteria established by the Agency which differs from the criteria in the ICC/A117.1. See “visitable units” description in the additional HCR accessibility requirements section below.

### **Units with Communication Features**

Requirements of ICC/A117.1 are similar to the requirements in the 2010 ADA Standards for units with communication features. For residents who are hard-of-hearing or deaf, the standards address unit smoke detection and building-wide fire alarms; unit entries with a means for visually identifying visitors without opening the unit door; and, where provided, entry systems that are capable of connecting to TTY’s used for sending messages between a visitor at the building entry and an occupant within the unit.

Although UFAS does not contain many requirements for communication features, HUD Section 504 regulations require two percent of units to be accessible to persons who have hearing impairments or vision impairments. Similarly, the 2010 ADA Standards require two percent of the units to provide communication features. Unlike UFAS or the ICC/A117.1 requirement for units with communication features, the 2010 ADA Standards require the visible alarm appliances within the dwelling unit to be put in place and ready for use.

Fully Accessible and Adapted, Move-In Ready Units for hearing or visually impaired residents, utilized by some programs administered by HCR, are based on units with communication features. See the definition in the applicable program funding announcement and as described below.

### **Adaptable Features**

Type B dwelling units provide minimal accessibility. Occupants of Type B dwelling units may need significant changes, including moving walls and fixtures, to meet their disability-related needs. Type A dwelling units and their counterparts in UFAS and the 2010 ADA Standards allow for certain elements to be installed or made available when occupants need them. These features are sometimes called “adaptable”.

## **Public Use Spaces and Places of Public Accommodation**

The ADA Standards require all new and altered places of public accommodations located on residential sites to be accessible. Public accommodations include, but are not limited to, rental and sales offices, retail and food establishments, recreation facilities open to the public, and parking serving these spaces. For a definition of “place of public accommodation”, see the U.S. Department of Justice ADA Title III regulations (28 CFR 36.104).

## **Common Use Areas**

Common use areas are shared spaces located outside dwelling units that are provided for the exclusive use of residents and their guests. Examples include, but are not limited to, hallways and corridors that service dwelling units; laundry rooms, party rooms, mailboxes, swimming pools, playgrounds and other recreation and exercise facilities, toilet rooms, trash depositories, and parking for residents and their guests.

In non-elevator buildings, UFAS requires at least one of each type of common use space to be accessible and to be located on an accessible floor. Similarly, the 2010 ADA Standards require only those common use areas serving accessible units to be accessible. However, HUD’s Fair Housing Act Design and Construction Requirements (24 CFR § 100.205) require common use areas to be accessible in facilities with covered multi-family units.

## **Accessible Routes**

An accessible route is a continuous, unobstructed path of travel that is usable by persons using wheelchairs and other mobility devices, such as walkers and scooters. With few exceptions, all accessibility standards require a network of accessible routes to be provided within a facility to connect together all elements and spaces required to be accessible, including common use areas, and to provide access to site arrival points such as accessible parking, bus stops, the public right-of-way. See applicable codes and regulations for components and criteria requirements for accessible routes.

## **Additional HCR Accessibility Requirements**

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### **Assurances**

Project architects, general contractors, and owners must certify to HCR that each project complies with all applicable State, local, and Federal government Accessibility requirements. Submit the “New York State Homes and Community Renewal Affidavit of Project Compliance with Accessibility Requirements” at the time of the construction loan closing.

### **Equitable Distribution**

Accessible units (as required by Section 504 of the Rehabilitation Act) and HCR Adapted Units (Fully Accessible and Adapted, Move-in Ready Units) to the maximum extent feasible and subject to reasonable health and safety requirements, shall be distributed throughout buildings and sites and shall be available in a sufficient range of sizes and amenities so that a qualified individual with disabilities’ choice of living arrangements is, as a whole, comparable to that of other persons eligible for housing assistance under the same program. However, this requirement shall not be construed to require provision of an elevator in any multifamily housing project solely for the purpose of permitting location of accessible units above or below the accessible grade level.

### **Visitable Units**

All dwelling units connected to an elevator and all first-floor dwelling units in newly constructed buildings without elevator service shall include the criteria listed below. Buildings undergoing adaptive reuse or rehabilitation shall comply to the maximum extent feasible with each of the measures below:

- a. an Accessible Route circulation path to the unit without relying on ramps, unless unavoidable due to existing conditions that are impractical to change.
- b. at least one 36-inch wide unit entrance or a unit entrance meeting Building Code Type B unit entrance criteria.
- c. at least one 36-inch wide interior circulation path, or an accessible route meeting the criteria of ICC A117.1-2009, to all habitable rooms, kitchens and bathrooms on the grade-level floor.
- d. at least one half-bath that contains at least a clear floor space of 48-inches minimum long and 30-inches minimum wide positioned outside the door swing and blocking for at least two safety grab bars.

### **Fully Accessible and Adapted, Move-in Ready Units**

Fully accessible and adapted, move-in ready units are utilized by certain programs administered by the Agency. See program information and announcements for information on where to include these units and the quantity to be provided.

### **Units for mobility impaired residents:**

At the time of initial occupancy, dwelling units shall be fully accessible and fully adapted to Type A Dwelling Standards in accordance with New York State or New York City Building Code reference standards, as applicable. In projects that must meet Federal Section 504 of the

Rehabilitation Act of 1973, the applicable proportion of dwelling units shall be fully accessible and fully adaptive in accordance with Section 504 criteria.

All such dwelling units shall include a fully accessible bathroom with a fully accessible roll-in shower with an attached seat or a fully accessible bathtub with an optional seat. The accessible bathtub shall be designed and built in such a way that the layout and plumbing will readily accommodate the future conversion to a fully accessible roll-in shower with an attached seat. The determination of whether the roll-in shower or bathtub option is selected will be dependent on satisfactory documentation of need, per applicable program requirements. Building owners will be required to convert to the bathtub or shower option in these dwelling units as a reasonable accommodation at no cost to the tenant, if requested by the tenant. In all cases, these dwelling units shall be move-in ready, with the installation of all grab bars, cabinet pulls, appliances, thresholds, etc., to meet fully adapted standards at the time of initial occupancy. Exceptions permitted in the building code for Type A adaptability (e.g., removable cabinet base) are not permitted at the time of occupancy in HCR's Fully Accessible and Adapted, Move-in Ready Units.

**Units for hearing or visual impaired residents:**

At the time of initial occupancy, dwelling units shall be fully accessible and fully adapted for the hearing and visually impaired in compliance with the 2010 ADA for Units with Communication Features and include additional devices in accordance with the Agency's design standards. Fully accessible and fully adapted shall mean that all devices, components and features are fully installed and operational. Exceptions in the 2010 ADA for existing units do not apply. In projects that must meet Federal Section 504 of the Rehabilitation Act of 1973, the applicable proportion of dwelling units shall be fully accessible and fully adapted in accordance with Section 504 criteria.

## Environmental Review

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The Environmental Unit is responsible for conducting environmental reviews for all HCR agencies. In accordance with requirements of 6 NYCRR Part 617, the State Environmental Quality Review Act (SEQRA), the Environmental Unit will conduct an environmental review of all HTFC Multifamily Finance 9% Competitive Process projects that are given a preliminary funding award and all HFA project applications upon notification from program staff. In addition, any projects that receive federal funding through HCR, for example, the U.S. Department of Housing and Urban Development (HUD), shall also be reviewed under the requirements of 24 CFR Part 58, the National Environmental Policy Act (NEPA), or other relevant federal environmental review standards.

Independent of SEQRA compliance, all projects shall comply with:

- Section 14.09 of the Parks, Recreation, and Historic Preservation Law (or federal equivalent)
- Floodplain Management Criteria for State Projects (6 NYCRR Part 502)
- Section 305(4) of the Agriculture and Markets Law
- NYS Coastal Zone Management regulations (19 NYCRR Part 600)
- Smart Growth Public Infrastructure Policy Act (NYS Environmental Conservation Law, Article 6).

All project sponsors will be required to submit a Phase I Environmental Site Assessment (ESA) report which shall meet, at a minimum, the American Society for Testing and Materials standard for site assessment (ASTM E 1527-13) dated within the time limits required by the project funding

source(s). For projects following the Multifamily Finance 9% Competitive Process, this time limit is one year prior to the application for funding. For HFA projects, this time limit is within six months of the award of funding.

The Phase I ESA shall include an acceptable vapor intrusion screen. An update to an older Phase I report will be accepted. For rehabilitations, the scope of the investigation shall include visual examination for mold contamination. If recommended by the Phase I ESA or otherwise required, additional studies and mitigation plans shall be submitted prior to project clearance. If a project is being remediated under the jurisdiction of a state or municipal agency (such as NYSDEC or NYCOER), the Environmental Unit will not clear the project until that agency has approved, at a minimum, site characterization studies; however, it is expected that these projects would be closer to the remedial plan stage.

The applicant will be responsible for submitting additional studies, documentation and further investigations as requested. HCR will require any significant environmental impacts identified in their review to be mitigated as a condition for proceeding with project construction. Awardees are hereby advised that the project, including site acquisition, contracts for services, and any site disturbance beyond investigation or testing activities, shall not commence prior to the completion of the environmental review.



Environmental site suitability must be demonstrated with an environmental justice and mitigation narrative that follows the instructions located in the 9% RFP application (E-6) and the 4% application attachment available at: [hcr-site-suitability-standards.pdf \(ny.gov\)](https://www.hcr.ny.gov/sites/default/files/2021-06/hcr-site-suitability-standards.pdf)

Applicants may be asked to submit documentation that demonstrates that the project complies with the other state and federal entities which may have jurisdiction over the project. Although not exhaustive, a list of these entities might include:

- NYS Office of Parks, Recreation and Historic Preservation (OPRHP)
- NYS Department of Environmental Conservation (DEC)
- NYS Department of State (Waterfront Revitalization and Coastal Resources Act)
- NYS Department of Labor (DOL)
- NYS Natural Heritage Program (Endangered Species)
- NYS Department of Health (DOH)
- New York City (including CEQR)
- NYS Department of Agriculture and Markets (Agricultural Districts)
- Adirondack Park Agency (APA)
- U.S. Fish and Wildlife Service (Endangered Species)
- U.S. Department of Housing and Urban Development (HUD)
- U.S. Environmental Protection Agency (EPA)
- U.S. Army Corps of Engineers (Wetlands)
- U.S. Occupational Safety and Health Administration (OSHA)

Applicants are hereby advised that the project, including site acquisition, contracts for services, and any site disturbance beyond investigation or testing activities, shall not commence prior to the completion of the environmental review and receipt of an environmental clearance letter from the Environmental Unit.

## Lead Hazards

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All work including rehabilitation, renovation, repair, etc. at buildings constructed prior to 1978 (or earlier if other regulations apply) shall address lead-based paint in accordance with these guidelines, unless more restrictive regulations apply. HCR shall have access to affected work areas early in the construction process; therefore, the process and methods to allow non-protected workers and personnel into these work areas shall occur in a timely manner.

Residential occupancies (regardless of the age of the occupants) and child-occupied facilities, such as daycare centers and facilities providing programs or services for pregnant women, shall comply with HUD rules and guidance for testing and abatement of lead-based paint. Refer to Guidelines for the Evaluation and Control of Lead-Based-Paint Hazards in Housing (Second Edition, July 2012, HUD Lead Safe Housing Rule 24 CFR Part 35) and the EPA Renovation, Repair and Painting Rule (40 CFR Part 745). Provide certified third-party clearance examination reports for the following:

1. At each work area during construction, to demonstrate that the hazard reduction activities are complete and that the work area is safe for non-protected workers.
2. At the completion of the project, but prior to occupancy, to demonstrate that no soil-lead hazards or settled dust-lead hazards exist.

Other nonresidential occupancies shall comply with all applicable regulations for the removal of lead-based paint hazards, the safety of workers and the safety of persons who will occupy the building(s) after renovations. During construction activities, HCR must be notified when work areas are considered safe for non-protected workers in accordance with the applicable regulations. At this time, the expectation will be that affected work areas will be suitably vacuumed and otherwise cleaned of all hazardous dust.

Existing domestic water supply and distribution systems that are to remain must be tested for lead content in accordance with applicable drinking water regulations and guidelines or per HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (where municipal regulations do not exist). Where results for lead content meet or exceed the applicable action levels, domestic water supply piping and fixtures shall be removed and replaced with lead-free plumbing.

## **Mold**

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Where pervasive mold conditions are identified prior to, or during the construction or rehabilitation of any project, such conditions shall be remediated in accordance with applicable protocols established by the New York State Department of Labor Mold Program.

Mold occurring in isolated locations, as a result of the construction activities, shall be fully abated by removal of the affected material whenever possible, and the contributing condition(s) shall be corrected.

When mold conditions occurred during the construction of a project, the project closeout shall be conditioned upon certification from a certified mold assessor that mold and the conditions contributing to mold growth were eliminated. Final certification from other professionals recognized by the Department of Labor Mold Program is acceptable for fully abated isolated conditions where the conditions contributing to mold growth were a temporary condition due to construction activities.

Other references or guidance that may be useful include: the New York City “Guidelines on Assessment and Remediation of Fungi in Indoor Environments”, as published by the New York City Department of Health and Mental Hygiene, US Environmental Protection Agency Mold Prevention in Schools and Commercial Buildings.

## Radon

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All newly constructed and renovated buildings funded by the Agency and located in EPA Zone 1 or 2 shall address radon in accordance with the EPA Current Radon Standard of Practice for the applicable building type and in accordance with this section. The most common Standards of Practice, published by the American National Standards Institute and the Association of Radon Scientists and Technologists (ANSI/AARST), are listed in the “Common Regulations Laws and Guidelines” section of this document.

New and substantial rehabilitation low-rise residential projects shall install a passive radon mitigation system in accordance with the applicable Standard of Practice, including collectors below the slab and a vent pipe through the roof. Vertical vent pipes shall run at the interior of buildings to avoid frosting inside the vent stack during cold weather. Include electrical junction box(es) above the highest occupied floor level for future system activation.

Moderate rehabilitation low-rise residential projects shall install active radon-reduction measures in accordance with the applicable Standard of Practice should testing at the completion of the rehabilitation confirm the presence of radon gas in the building exceeding the EPA action level. It is highly advisable to include radon reduction measures in the base scope of work to avoid costly retrofits should elevated radon levels be discovered after rehabilitation has been completed.

Mid-rise/high-rise residential projects and non-residential facilities shall incorporate the methods described above or other radon mitigation measures recognized by the applicable Standard of Practice.

Nonresidential facilities with a limited period of occupancy may omit these methods and measures if it is established by a third party with radon expertise that the limited period of occupancy does not warrant the need for mitigation.

Radon testing in all new and rehabilitation projects shall be conducted at the completion of construction or rehabilitation work, prior to occupancy/re-occupancy. A radon professional shall oversee testing as per the applicable Standard of Practice meeting US-EPA short-term, closed-building testing protocols. Testing prior to rehabilitation work is not recommended because it will not provide an accurate representation of the conditions post-renovation due to increased efficiency in the building envelope and systems (i.e., increasing insulation levels, reducing air infiltration, replacing windows, changes to the HVAC system, etc.).

Passive radon-reduction systems shall be activated should tests confirm the presence of radon gas in the building exceeding the EPA defined action level of 4pCi/L. If the test results indicate radon concentrations between 2pCi/L. and 4pCi/L., consider activation of the system based on EPA recommendations.

# Design Guideline Criteria

The criteria in these Guidelines have been developed to ensure minimum standards of quality, function and durability of projects funded by the Agency.

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## Site Development

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The following criteria shall be included where applicable or specifically stated as required. These criteria are intended to enhance neighborhoods and community pride, contribute to economical development and operations of site facilities, improve quality of life for residents, promote Accessible design, and provide for the safety of the residents and the general public.

### Design and Context Criteria [Site]

1. Site development should be compatible with the project surroundings, e.g.:
  - a. Neighborhood scale should be maintained.
  - b. New and existing setbacks should be compatible.
  - c. Building heights and bulk, as seen from the street, should be respected.
  - d. Building materials should be compatible with the neighborhood context.
2. Neighborhood traffic patterns should be respected, e.g.:
  - a. Internal roads should relate to existing and planned alignments of abutting neighborhood roads and should discourage through-traffic and speeding.
  - b. Intersections should generally be at right angles and avoid offsets.
  - c. Site development should enhance and continue any existing pedestrian or bike trail systems whenever possible.
  - d. Building massing and pedestrian pathways should enhance connections to nearby parks, plazas, and open spaces.
3. Interesting and enjoyable views should be afforded from dwellings, indoor common areas, and outdoor sitting areas.
4. Community facilities should be located for convenience to dwelling units.



*Covered entrance with seating*



*Screening for mechanical equipment*

5. Building and open spaces should be oriented to benefit from environmental conditions.
6. Building entrances should provide shelter from sun, wind, and precipitation.
7. Existing trees should be maintained, where possible.
8. Provide landscaping that enhances the building, including indigenous shrubs, berms, decorative fencing, special lighting, and signage. Shade trees are encouraged wherever possible, especially to shade seating areas and building(s).
9. Provide screening for all exterior mechanical equipment, meters, dumpsters, etc.
10. It is encouraged, where possible, to install exterior lights that utilize solar photovoltaics (PV) to power the fixtures.
11. Provide at least one Level 2 electric vehicle (EV) charging station for every twenty parking spaces provided in a project. EV charging stations shall be equitably distributed throughout the project to allow residents equal convenience in accessing the EV charging stations.
  - a. Projects shall not be required to provide more than five EV charging stations in total.
  - b. Projects that do not provide parking in a lot are exempt from this requirement.

### Accessibility/Visitability Criteria [Site]

1. Access to buildings, facilities and site amenities within the project site shall include Accessible Routes in compliance with the applicable building code, Fair Housing Act and other applicable regulations, such as Section 504 of the 1973 Rehabilitation Act.
2. When a parking area abuts an Accessible Route (sidewalk), sidewalks shall be widened, and wheel-stops or a curb must be provided to prevent vehicles from overhanging the sidewalk and obstructing the Accessible Route.
3. Accessible Routes shall connect all community facilities, common use areas and dwelling units.
4. All portions of a pedestrian system should be passable in poor weather, i.e., capable of being easily cleared of snow, sheltered from sweeping winds, and well-drained to prevent flooding and icing. Exterior ramps and stairs, along with their respective approaches, must be designed to prevent water and snow accumulation. The maximum permitted landing slope (2%) should be used to allow for drainage.



*Parking with wheel-stops or curbs at sidewalks*



5. Whenever possible, provide building and unit entries/exits at grade. To minimize costs, avoid using elevated ramps but, if provided, each ramp run should have the least possible slope and must have compliant top and bottom landings, handrails, handrail extensions, and edge protection.
6. Provide ramps, where possible, in place of or in addition to stairways or steps. Consider providing stairs and ramps in the same vicinity to accommodate the widest possible range of users. Many people who have difficulty walking, find stairs easier to use than steep ramps. Ramps at main entrances shall be decorative and finished to enhance the entry.
7. Handrails and railings shall be constructed of durable, weather-resistant materials that will not warp, crack, chip or peel under normal use. Avoid pressure-treated lumber as it has a tendency to warp and may not hold paint over time.

### Quality of Life Criteria [Site]

1. In projects where the number of bedrooms can accommodate 20 children or more (including multi-site projects or portions thereof located on contiguous sites), provide play equipment in children's play areas. Play equipment shall be selected to promote physical activity and use for all age groups, from toddlers to adolescents. The quantity and variety of play equipment shall be proportional to the number of children that may reside in the project. Children's defined play areas should be designed and located for safety and to limit disturbance to other residents. Include the following criteria to achieve these objectives:
  - a. Locate play areas to allow easy supervision.
  - b. Locate play areas for younger children to avoid crossing vehicular paths.
    - Play areas should only be located adjacent to a drive or parking lot if protected by physical barriers capable of stopping a moving car.
  - c. Provide separate areas for toddlers/preschoolers and teenagers.
  - d. Provide safety surfaces at play equipment in conformance with U.S. Product Safety Commission guidelines, latest edition. Materials that are not manufactured as a cohesive finished surface or remain unbound in a non-permanent state, such as gravel, wood chips and rubber chips/beads, are not acceptable. These types of materials require constant maintenance to meet Accessibility criteria and may harbor vermin and other unhealthy and unsafe substances.



*Safety surface and equipment at play area*



*Enclosed play area with benches*

- e. Enclose play areas with fencing to provide safety and protection to children.
  - f. Locate play areas on Accessible Routes to allow access for wheelchair users.
  - g. Select play equipment to provide equivalent play experiences and opportunities for children with disabilities.
2. Equipment and areas for adult fitness are encouraged. For projects with play areas, it's recommended to place adult fitness adjacent to children's play areas.
  3. Bicycle storage facilities shall be secure and easily accessible to encourage transportation and recreational use by bicycle. Sheltered bicycle storage facilities are recommended.
  4. Provide seating areas with benches at multifamily projects. Benches in senior projects shall have backs. Exterior seating must be of durable, low maintenance materials. Exterior seating and other amenities must be permanently anchored in place.
  5. Projects with Accessible dwelling units or other Accessible uses must include paved Accessible wheelchair areas with adjoining benches.
- 
- Low-maintenance seating areas with trees*
6. Open space should be useful and accommodating, e.g.:
    - a. Provisions should be made to accommodate both social interaction and privacy for residents.
    - b. Sitting areas and walkways should be arranged to facilitate conversation, casual interaction, social contact, etc.
    - c. A clear separation between public and private space should be provided.
    - d. Outdoor space and public sidewalks should be shaded and made attractive by the inclusion of trees. **Where possible, use solar panels as a successful means of shading.**
    - e. Picnic facilities are encouraged to promote family and social activities.
    - f. Outdoor spaces that contain flower and vegetable gardens suitable for both adults and children are encouraged. Where provided in projects with Accessible/Adaptable dwelling units, raised garden planters shall be compliant with Accessibility criteria.

## **Security and Resident Safety Criteria [Site]**

1. Common project space should be secure. Public ways and exterior spaces should be visible from dwelling units and interior common spaces, e.g.:
  - a. Avoid recessed or hidden spaces.
  - b. Public spaces should permit easy supervision by security personnel.
  - c. Security cameras that cover the exterior grounds of the site may be included in projects with heightened security concerns.

- d. The area surrounding points of exit from the building should be visible without obstructions or dark areas where intruders could hide.
- e. Stairways should exit into well-lit areas that are visible to the public and nearby dwellings.
- f. In projects with individual dwelling unit entrances, parking areas should be close in proximity to dwellings to allow supervision of space and one's own car.



*Open space to promote social interaction*



*Raised garden planters*

- 2. As a safety precaution, ornamental fences shall have horizontal top bars with no pickets projecting above the bar. Wood picket fences are to have flattened tops or a horizontal cap above the pickets. Exceptions may be made where such fencing is necessary for a heightened degree of security.
- 3. Stormwater management areas shall be fenced or provided with other recognized design measures, such as aquatic benches designed to NYS DEC standards, to ensure safety for children and other residents of the project or the surrounding neighborhood.
- 4. Provide lighting levels meeting Illuminating Engineering Society recommendations. Locate lighting to thoroughly illuminate pedestrian walkways from parking spaces and public sidewalks to building entrances. Distribute lighting to ensure safety and minimize security concerns.
- 5. Projects are encouraged to include passive and active resiliency features, such as generators **or battery storage for solar**, where appropriate **and approved by local code**. Additionally, generators should be considered at all senior projects.

### **Operational Efficiency and Durability Criteria [Site]**

- 1. Trees at streetscapes must be at least 2-½ inch caliper. Other trees on site must be at least 1-½ inch caliper.
- 2. All plantings shall comply with New York State Departments of Environmental Conservation and Agriculture and Markets regulations concerning invasive species.
- 3. Plantings **should** be selected to minimize water usage. **Consider xeriscaping or naturally occurring landscaping plants and materials.**



4. Provide lawns with at least 3" of well-screened topsoil. Lawns are to be maintained no less than weekly during the construction phase until 98% established.
5. Paved areas should be high quality, durable, easily maintained, stable, and have a non-slip texture. All primary walkways, sidewalks from parking areas, sidewalks to secondary entrances, and all Accessible Routes shall be reinforced concrete or other suitable material with similar qualities noted above. Unstable installations, such as asphalt pavement or interlocking paver blocks over a granular base, are not acceptable. Plaza pavers selected for aesthetics shall be a heavy-duty installation designed and constructed to ensure Accessibility and durability.



*Paved areas for Accessibility and durability*



*Entrance enhanced by landscaping*

6. All concrete exposed to weather must have a minimum ultimate design strength of 4,000 psi and contain an air entrainment admixture.
7. Walking surfaces shall have a minimum 4-inch base of compacted, sound, granular and durable materials that are free from organic matter.
8. Asphalt paving for parking and drive surfaces shall be compacted 2-inch base course and 1½" top course over a 6" aggregate base. Provide positive drainage of all driveways, parking areas, ramps, and walkways to prevent standing water.
9. Exterior lifts shall be protected from the elements with an adequate roof or other covering. Lifts that are located in areas susceptible to weathering from elements are not permitted.
10. Site development, including utility and infrastructure work, shall be limited to that required for the subject project. The cost of site development work that benefits other projects, existing or future, shall be equitably prorated between the projects. Future developments may be required to reimburse site development costs if the future development benefits from the original project development. An exception will be allowed for work required by the local jurisdiction for expanding existing infrastructure to the subject project. Refer to the program requirements of the funding source for more information on shared development costs.

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## Building Envelope, Structure and Utilities

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The following criteria shall be included where applicable or specifically stated as required. Building envelope criteria include considerations for the durability and longevity of the exterior enclosure systems in addition to energy efficiency measures. The criteria are intended to promote building designs that are aesthetically and architecturally compatible with the context of the area. This section also focuses on creating a durable and energy-efficient building core, including the building structure, utilities and interior finishes, to promote a safe and healthy environment for the residents.

### Design and Context Criteria [Building]

1. The building design, material selections and detailing must consider the following:
  - a. Compatibility to enhance the neighborhood context and natural environment.
  - b. **Well sealed, highly efficient building envelopes and systems** to reduce operational costs.
  - c. Durability of material systems to minimize routine maintenance.
2. Building facades that face the street or have a prominent exposure to other public areas shall include design measures that increase the building's aesthetic appeal to enhance and reinforce existing design qualities found in the neighborhood. Examples of such measures include:
  - a. Articulation of the building façade by incorporating elements such as porches, terraces, bay windows, dormers, pilasters, or other building setbacks.
  - b. Architectural details such as brackets, banding, railings, chimneys, entry columns, or window shutters designed to be compatible with the architectural qualities of prominent buildings in the neighborhood.
  - c. Roof shapes and articulations that are visually appealing and compatible with prominent buildings in the neighborhood.  
Examples include varying roof slopes or heights, hips, articulated gables, cupolas for pitched roofs, articulated parapets, prominent copings, and cornices for low slope roofs.
  - d. On projects with multiple buildings on the same site, it is recommended to provide variation amongst the buildings for identification or wayfinding purposes.
3. The primary exterior material for buildings located in densely populated urban areas shall be masonry; however, durable alternatives such as high-performance panels may be utilized.
  - a. At locations where the immediate neighborhood context is masonry, provide masonry for the full building height at all elevations exposed to public view or other elevation areas subject to abuse.
  - b. In all other urban areas, provide masonry at all grade level stories.



*Architectural detailing and façade articulation*



4. Where pitched roofs are proposed on non-urban units and low-rise multi-dwelling buildings (2-3 stories, i.e., rowhouses, garden apartments), the minimum roof pitch should be 5/12 or greater to match those of existing surrounding residential structures.
5. Buildings with lengthy corridors should be avoided, especially in non-urban settings. Wherever possible, configure family housing as low-rise buildings utilizing individual exterior dwelling unit entries, or buildings with clustered/central core dwelling unit entries.
6. Noise mitigation measures shall be provided if outside ambient noise levels are higher than 65 decibels.



*Cornice articulation on low-slope roofs*



*Maintaining neighborhood aesthetics*

## **Accessibility / Visitability Criteria [Building]**

1. Elevators
  - a. General Requirements
    - Where provided, elevators must comply with applicable safety standards and accessibility requirements: ASME A17.1/CSA B44-: Safety Code for Elevators and Escalators and Chapter 4 of the ICC/A117.1, latest editions adapted by the applicable building code.
    - Destination oriented elevators shall not be used due to reported difficulties in use by the elderly and persons with disabilities.
  - b. Minimum Number
    - Buildings with more than 6 stories shall have at least two elevators.
    - Buildings with dwelling units for seniors located above or below the level of exit discharge shall have at least one elevator.
  - c. Demand Response Time
 

Elevators shall be provided in a sufficient number and size to meet demand response times complying with this section. Calculations shall assume a minimum of 3 square feet (0.28 mm<sup>2</sup>) per person.

    - Multifamily Facilities: Elevator service shall accommodate approximately 6% to 7% of occupants in a five-minute demand with waiting times no greater than 50 – 90 seconds. Calculate the anticipated population as 2 occupants per bedroom unless a higher population is known.

- Multifamily Facilities with Seniors: Elevator service shall accommodate approximately 5% to 6% of occupants in a five-minute demand with waiting times no greater than 50 – 90 seconds. Calculate the anticipated population as 1.25 to 1.5 occupants per bedroom.
- d. Size Requirement
- All elevator cars shall be of a size and arrangement to accommodate ambulance stretchers meeting criteria established in the elevator requirements of the applicable building code. Elevators shall be identified by the international symbol for emergency medical services (star of life) placed in a location complying with applicable building code.
- e. Finishes
- Finishes shall be the following materials, equivalent, or better:
- Flooring shall be heavy-duty, wear-resistant vinyl tile.
  - Wall and ceiling panels shall be plastic laminate.
  - Handrails shall be stainless steel.
  - Lighting shall be ENERGY STAR labeled, or equivalent.
  - Shatterproof mirror mounted on one upper corner of the car to allow over-view of the car before entry and to facilitate backing out of the elevator by wheelchair users.
- f. Manufacturer Guarantee
- A written manufacturer guarantee shall be provided and shall, at a minimum, cover parts and components for a period of one year after the date of final acceptance by the owner. Repairs or replacements made under the guarantee must be guaranteed for an additional one-year period.
- g. Elevator Contractor Provided Service Contract
- The elevator contractor shall provide a service contract to cover maintenance and callback service not covered by the manufacturer guarantee for a period of one year after the date of final acceptance by the owner. Coverage shall include regular and systematic examination, adjustment, lubrication, and repair or replacement of equipment due to normal elevator usage.
- h. Owner Provided Service Contract
- Upon expiration of the service contract provided by the elevator contractor, owners shall provide for a continuation of the coverage at the same level for the entire time of the regulatory period.

## **Health and Safety Criteria [Building]**

1. Spray foam insulation shall be applied by applicators certified by the manufacturer, the American Chemistry Council, or other recognized industry standards. The application of spray foam shall be in accordance with such certification to limit harmful off-gassing after the curing period. Scheduling of spray foam applications shall be done in a manner that allows sufficient ventilation to occur to dissipate any residual off-gassing prior to the spray foam insulation becoming enclosed by other materials.

## Security and Resident Safety Criteria [Building]

1. All windows must have a locking device that is tamperproof from the exterior.
2. Provide child guards (i.e., fall protection) or window opening control devices in accordance with the NYS Building Code, NYS Residential Code and NYC Housing Maintenance Code, as applicable.
3. Provide vision panels at common entry doors. It is preferable to maximize the size of the vision panels at main entrances.



*Large vision panels at common entry doors*

## Operational Efficiency and Durability Criteria [Building]

1. All interior concrete must have a minimum ultimate design strength of 3,000 psi.
2. Exposed, interior concrete at walkable surfaces are to be finished with chemical hardeners, sealers, or suitable floor paint to prevent dusting.
3. All wood exposed to the weather and wood blocking used in roofing must be pressure treated, or other suitable rot-resistant species or material.
4. Pressure treated wood for areas such as balcony **decking** and railings are discouraged from use due to the tendency of the wood to warp, split and chip.
5. Exterior building materials:

- a. Masonry (brick, stone, concrete block):  
Select for aesthetic appeal and with grades that ensure durability and longevity. Brick and concrete block shall be full dimension modular units with a minimum of four inches nominal thickness. Design and installation shall comply with industry best practices for prevention of water infiltration and to maintain structural stability.

Manufactured stone veneer shall be two inches or greater in thickness, set in mortar beds and carry a 50-year product warranty. The use of manufactured stone veneer is limited to building accents and as a base condition at grade.

Thin brick veneer systems shall not be used on exterior surfaces.



*Not allowed—thin brick on exterior*

- b. Exterior insulation finish systems (EIFS):  
Select for aesthetic appeal and advanced thermal envelope performance for energy efficiency considerations. Aesthetics should provide a variety of surfaces and geometries, avoiding large, flat, non-articulated areas. Provide special, manufacturer approved detailing to ensure durability and to prevent water infiltration, especially at horizontal projections and other areas with increased susceptibility to water infiltration. EIFS shall not be used at grade level stories. All system components shall carry a min. 10-year manufacturer's warranty.
  - c. Vinyl siding:  
Solid vinyl siding manufactured without fillers with a minimum thickness of .044 inch.
  - d. Wood clapboard siding:  
Free and clear of knots, checks, and other defects.
  - e. Fiber cement board siding:  
Field painted or prefinished and carrying a minimum manufacturer's finish warranty of 15 years.
  - f. Other exterior building materials:  
The above list represents the most common exterior materials utilized on projects funded by the Agency. Other materials may be acceptable. Considerations for the selection of other materials are aesthetics, durability, longevity, warranty, maintenance and energy efficiency. Design and installation shall comply with industry best practices for prevention of water infiltration and maintaining structural stability. Provide special detailing to ensure durability, especially at areas with increased susceptibility to water infiltration. Materials prone to damage by children playing, lawn equipment, etc., shall not be used on grade level stories.
6. For all new construction projects, provide R and U values that comply with or exceed the Energy Conservation Construction Code of New York State or Energy Conservation Code of New York City, latest edition, as applicable. Substantial/gut rehabilitation projects shall comply with criteria applicable to new construction, unless technically infeasible. All projects are required to comply with the applicable energy and green building criteria indicated in Appendix F.
7. Roof and floor sheathing shall have an exposure 1 classification constructed of structural veneer plywood or non-plywood, high-performance structural panels. Where roof structural members are spaced a maximum of 24 inches on center, roof sheathing shall have a minimum nominal thickness of 5/8 inch to minimize deflection between structural members. H-clips must be used for square edge profiles with unsupported edges. Floor sheathing must be tongue and groove panels with a minimum nominal thickness of 3/4 inch. Non-plywood, high-performance structural roof or floor sheathing panels shall comply with the following:
- a. Carry a limited lifetime warranty.
  - b. Include a 500-day no-sanding guarantee that covers delamination and excessive swelling.
  - c. Maintain moisture resistance throughout each panel and at all edges when cut into smaller panels.

Non-plywood, high-performance structural roof sheathing panels with an integrated moisture barrier are acceptable if provided with a manufacturer's 30-year system warranty.

8. Underlayment must be in conformance with the floor finish manufacturer's acceptable standards.
9. New roofing systems are required on all projects, with the exception of existing roofs in good condition with no history of leaks that will carry a 15-year or longer warranty at the time of substantial completion for the funded project or building.
10. Low slope roofs shall use industry-standard roof membranes from a reliable manufacturer that carry a minimum of a 20-year, full systems manufacturer's warranty for labor and materials with no dollar limit. In addition, the roofing contractor is to provide a minimum two-year labor warranty for all roofing and sheet-metal work.
11. Shingle roofing shall carry a minimum manufacturer's warranty of 30 years and a two-year roofing contractor's labor warranty for all roofing and sheet-metal work.
12. Metal roofing shall carry a minimum 30-year finish warranty, a minimum 25-year material warranty, and a 2-year roofing contractor's labor warranty for all work. The finish warranty shall state, at a minimum, that the finish will not fade, chalk, crack, check, or peel. The material warranty shall state, at a minimum, that the material will not rupture, fail structurally or perforate under normal atmospheric conditions.
13. All flashing material must be of non-corrosive weather-resistant materials and consist of a minimum of .019 inches aluminum or a membrane flashing in compliance with the roofing system requirements.
14. Exterior window units are to be tested and labeled as complying with AAMA/WDMA/CSA 101/I.S.2/A440-11 (North American Fenestration Standard/Specification for windows, doors, and skylights) or AAMA/NWWDA 101/I.S.2-97 (Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors). The label shall state the name of the manufacturer, the labeling agency, and the product designation. Windows shall meet or exceed the Performance Class/Performance Grade designations indicated below:
  - a. Wood, fiberglass, and composite windows:
    - LC-PG30.
  - b. Vinyl and aluminum windows:
    - Buildings with occupied stories above three stories in height: CW-PG50, C-PG50.
    - Buildings three stories or less in height: LC-PG50.
  - c. The performance class/grade shall be increased if required for structural performance, as required by the applicable building code. In such cases, the consultant may be asked to justify the grade specified with structural calculations based upon the building code reference standard, Minimum Design Loads for Buildings and Other Structures, ASCE 7- (latest edition).

- d. Mulled units and combination units shall meet the same designation as required for single window units.
  - e. All windows in a project shall meet the same performance class/performance grade designation.
  - f. All operable windows are to be hung (vertical sliding— single or double hung) or projecting hinged type (awning, casement, etc.). Horizontal sliding windows shall not be used.
  - g. All operable windows shall be provided with mesh screens covering the full open area.
  - h. Wood windows shall include low/no maintenance exterior cladding except as may be required in historic preservation projects.
15. For rehabilitation projects where original primary windows are remaining, provide exterior mounted aluminum triple track storm/screen windows and permanently affixed (mechanically fastened) metal weather-stripping at all edges of operable sashes, including interlocking weather stripping at meeting rails.
16. Plumbing
- a. All water supply and heating piping shall be Type K soft temper copper for below grade exterior lines, Type L hard temper copper for interior domestic water lines, Type M for hydronic heating lines, or cross-linked polyethylene (PEX) piping. Copper piping must be installed with soldered joints using lead-free solder or with mechanical press connections. PEX piping shall be installed to limit the number of connections to the greatest extent possible. Connections to boilers, pumps, etc. for space heating and domestic hot water heating shall be with copper piping. All PEX piping installations are to be pressure tested to 100 psi for a minimum of 4 hours.
  - b. Mechanical Press Fittings for Types K, L, or M copper pipe, as applicable:
    - Bronze or copper conforming to ASME B16.51, IAPMO PS 117 and NSF 61/NSF 372 (Zero Lead Compliance).
    - Fittings ½-inch through 4-inch for use with ASTM B88 copper tube and ½ -inch through 1-1/4-inch for use with annealed copper tube.
    - Fittings are to have an O-ring sealing element and a feature that guarantees the identification of an un-pressed fitting.
    - Fittings shall be installed in conformance with the manufacturer’s instructions/ specifications for approved applications.
  - c. Superior installations are encouraged to meet the following criteria:
    - PEX piping for hydronic heating:
      - All systems installed to meet requirements of the pipe and connector manufacturer.
      - Heating units piped as “home-runs” from the header/manifold to each heating unit or as a continuous loop from heating unit to heating unit with no intervening connections, unions, or splices, etc.
      - PEX piping is avoided at supplies to or piping at mechanical equipment, boilers, hot water heaters, etc.
      - All pipe, fittings and crimp rings are non-metallic and part of one manufacturer’s system.

- Systems utilizing PEX-b or PEX-c piping:

- Dwelling units are to be supplied with a single copper pipe to a copper or brass manifold with an integral shut-off valve. Manifolds are to be part of the manufacturer's system meeting ASTM F877. At the manifold, individual shut-off valves are to be provided on each fixture branch line, or a common shut-off is provided on the copper dwelling unit supply line. Shut-off valves and manifolds are to be accessible within the apartment or immediately outside the apartment in a common corridor at a concealed location.



*PEX System Manifold*

- All plumbing fixtures are to be piped with fixture branch lines directly from the dwelling unit's manifold, or directly below in a basement with individual line penetrations. Fixture branch lines are to be "home-runs" with no connectors, union, or splices, etc. between the manifold and the termination stub-out at each fixture. Each fixture stub-out is to be a copper pipe secured to the building framing with compatible, heavy-duty support plates that fastens the support stub-out securely in place.
- Pipe, fittings and crimp rings are to be part of a single manufacturer's system.
- Connectors are to be brass or bronze with full circle brass, copper or stainless steel crimp ring connectors that utilize crimping tools meeting the manufacturer's specifications.
- All piping shall carry a 25-year manufacturer's warranty.
- Connectors shall carry a 2-year manufacturer's warranty.
- The installing contractor shall provide an installation warranty of 2 years.
- Systems utilizing PEX-a piping:
  - Main building supply/return lines may be PEX-a if the installation meets building code requirements, including requirements for penetrations into fire-rated assemblies. Main building supply and return lines are to utilize metallic fittings.
  - Dwelling units are to be supplied by a single dwelling unit supply line piped from the main building supply line to a supply manifold meeting the pipe system manufacturer's requirements. Shut-off valves for each dwelling unit supply line are to be accessible within the apartment or immediately outside the apartment in a common corridor at a concealed location.
  - Manifolds are to be accessible within the dwelling unit. Manifolds with shut-off valves are to be properly supported as necessary for valve operation. Manifolds without shut-offs are to have main branch line shut-offs on supply lines to the manifolds.



- Within dwelling units, fixtures are to be piped with fixture branch lines directly from the dwelling unit's manifold. Fixture branch lines are to be "home-runs" with no connectors, union, or splices, etc. between the manifold and the termination stub-out at each fixture. Each fixture stub-out is to be a copper pipe secured to the building framing with compatible, heavy-duty support plates that fastens the support stub-out securely in place.
- A multiple line branch tee may be provided to feed multiple fixtures within immediate proximity of each other.
- All piping is to be PEX-a piping from one manufacturer meeting ASTM F876 and F877 certification standards.
- All fittings shall meet ASTM F1960 standards.
- The number of fittings on PEX-a runs are to be kept to a minimum.
- The entire system shall carry a manufacturer's 25-year warranty and is installed by plumbers trained in accordance with the manufacturer's requirements.
- The installing contractor shall provide an installation warranty of 2 years.
- d. Provide drain pans for all hot water tanks, washing machines, etc.
- e. Plumbing vent stacks shall extend above the roof surface. When allowed by the applicable building code, individual fixture vents are acceptable at locations where full-height walls available to run vents are not within code compliant pipe lengths, such as sinks at peninsula counters.
- f. All sprinkler piping shall run in concealed spaces. At top floors, piping shall be protected from freezing by utilizing side wall sprinkler heads at interior partitions or by running piping in dropped soffits that are completely enclosed on all four sides below the thermal envelope.

## 17. Mechanical

- a. Design of HVAC systems shall consider building orientation and exposure.
- b. High-efficiency electric heating systems and domestic hot water systems should be considered in place of fossil-fuel sourced appliances, except when:
  - Sufficient electrical service is not available and cannot be made available by the utility company in a reasonable time, or at a reasonable cost.
  - There is not sufficient equipment for the size of the project available on the market.
- c. Lower efficiency electric heating components should only be considered in limited quantities in areas such as vestibules and stair towers when the equipment is allowed by the energy efficiency program selected for the project (as listed in Appendix F). Remote wall thermostats in a locked enclosure are to be provided to prevent running the heat at excessive temperatures.
- d. Provide mechanical ventilation at all bathrooms and kitchens. Vent each to the exterior or capture to an ERV/HRV system. Filtered range hoods are permitted in kitchens served by a central exhaust system.
- e. Through-the-wall air conditioning unit sleeves are not permitted.
- f. Mechanical ventilation in attics is encouraged to reduce cooling loads on top floors of buildings due to heat stacking effects.

- g. All forced air, heating and cooling system ductwork shall run within the building thermal envelope. For example, ducts shall not run in exterior walls, unheated attics, above the thermal/insulation, or in unheated crawl spaces.
- h. To avoid loose fibers in conditioned air ducts, ductwork shall be rigid metal with a smooth interior surface and sealed airtight. Insulated ductwork shall have insulation jackets or covers placed over the exterior surface of the duct surround.
- i. Non-metallic flexible duct shall not be used.
- j. Packaged Terminal Air Conditioning (PTAC) units are acceptable when part of a central heating system that meets ENERGY STAR standards, or the equivalent, and are superior in air leakage resistance and noise transmission.
- k. Variable refrigerant flow with heat recovery (VRF-HR) and electric heat pump HVAC Systems:
  - System shall utilize compressor inverter technology efficiently at temperatures at/ or above 0 degrees Fahrenheit, without reliance on electric resistance heat.
  - Electric backup heat required at temperatures below 0 degrees Fahrenheit shall be tied to the VRF-HR system to limit operation above 0 degrees Fahrenheit.
  - Surface mounted units are to be located in an inconspicuous area, out of primary sightlines in the dwelling unit.
  - Exterior mounted condensers shall be placed in a suitable inconspicuous location that does not interfere with exiting path used by the residents and is not directly visible through windows of dwelling units. If the condensers are roof mounted, the installation shall be such that it does not damage the roofing system nor detract from the exterior view of the building.
  - The VRF-HR fan coil/evaporator unit within the dwelling unit must be ducted to each habitable space within the dwelling unit.
  - VRF Multi-Split Air Conditioner and Heat Pump equipment must be Air Conditioning, Heating and Refrigeration Institute (AHRI) certified with the AHRI label affixed to the equipment.
- l. As energy efficiency increases, projects are advised to include a balanced ventilation system by utilizing Energy Recovery Ventilation (ERV) or Heat Recovery Ventilation (HRV) equipment. Balanced ventilation systems are to be integrated into the HVAC system.
- m. Equipment installed at grade (i.e., interior slabs on grade, exterior locations) shall be supported on a level concrete slab elevated above the adjoining grade. Equipment at exterior locations shall be permanently anchored to the concrete slab.
- n. Provide vibration and sound-absorbing bases or support for equipment subject to motion, which could transmit vibration or noise to the structure.

## 18. Electrical

- a. It is preferred that master metering is avoided. Dwelling units should be directly metered to the electric utility company. Submetering may be appropriate for solar electric installations.

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## Interior Shared Common Space

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The following criteria shall be included where applicable or specifically stated as required. The intent of these criteria are to promote efficient building designs while providing services and amenities for the residents. The criteria provide guidance on creating a balance between enhancing the quality of life for residents and maintaining affordability. Additionally, the criteria focus on measures that promote the safety and security of the residents.

**Interior shared residential common space** is defined as all areas in the residential project not within or dedicated to dwelling units (i.e., hallways, lobbies, utility rooms, manager's office, laundry rooms, community rooms, etc.).

**Nonresidential space** is defined as areas for the use or benefit of occupants that are not residents of the project; such as, civic space, commercial space, daycare centers, business offices, training rooms, counseling offices, etc., including utility and other auxiliary spaces that serve the nonresidential areas.

### Design and Context Criteria [Interior Common]

1. Developments that include nonresidential space as defined above, must comply with the following provisions:
  - a. Utility costs for residential and nonresidential spaces must be separated; examples include separate HVAC systems, separate electrical systems, separate domestic hot water systems, etc., with separate utility meters or other measuring equipment acceptable to the Agency to determine usage attributable to nonresidential spaces. Exceptions will be allowed for water service metering where the local utility limits the water service and metering to the building and where a method of sub-metering is accepted by the Agency.
  - b. The general public must be able to access the nonresidential space without passing through the residential portion of the project.
  - c. For the security of the residents, uncontrolled access between the residential and nonresidential space is not allowable.
  - d. The construction costs for nonresidential space must be funded by nonresidential funding sources and must include prorated portions of the shared systems such as the foundation, roof system, structure, utilities, etc.
2. Residential shared common space must be **no more** than 25% of the total residential space.
  - a. Adaptive reuse projects with buildings designated as historic by local, State or Federal authorities may include residential common space up to 35% of the total residential space when necessary to comply with historic preservation requirements. In each case, the design architect must work with the Design, Construction and Environmental Unit (DC&E) to obtain the most efficient plan possible for the project.
  - b. Waiver requests for increases above the maximum allowable percentage of shared common space shall show proof of sufficient funding for development of the excess space. In addition, the application documentation must document that the project operations can support the excess space within an acceptable rent and building operation

plan. HCR will evaluate the impact of the excess common space on the long-term operations of the project and may impose additional requirements for maintaining the space; including, the provision of an operational guarantee or additional design requirements to mitigate the impact of the excess space on the affordability of the residential project.

3. Floor systems, in new construction and those reconstructed in rehabilitation projects, shall generally comply with a maximum tolerance from true level of 1:128 for hard surface flooring, or 1:64 for carpeted areas. Floor systems to remain in existing buildings or areas undergoing a substantial rehabilitation shall be leveled to nominally meet these criteria when existing slopes generally exceed a tolerance of 1:48 for hard surface floors and 1:32 for carpeted areas. Continuous slopes in all areas (new or existing) shall be limited to a differential of 2-inches in height in any room or combined rooms within a dwelling unit and limited to 6-inches in common area spaces, including corridors. In no case shall maximum floor slopes exceed that allowable for maneuverable areas and clear floor space requirements established by Accessibility standards in all spaces served by or on an Accessible Route.
4. Laundry Requirements:
  - a. Centrally located laundry rooms are required in all rental projects. Laundry facilities shall be available for extended hours. When located in detached facilities, an exterior covered entry with 24-hour keyed access for residents is preferred. All laundry facilities shall be located on an Accessible Route and include a fixed counter, meeting Accessibility standards, for folding clothes.
  - b. Minimum appliance requirements:
    - Commercial grade energy efficient, ENERGY STAR where available.
    - 5% shall be front loading appliances meeting Accessibility criteria unless there are no Accessible/Adaptable dwelling units in the project.
    - The lesser of:
      - One washer and one dryer for every twenty bedrooms.
      - One washer and one dryer for every ten dwelling units.
    - The total number of appliances may be reduced by one half where all dwelling units are provided with laundry hook-ups in a side-by-side arrangement.
    - Centralized laundry rooms may be eliminated in scattered, multi-site projects consisting of one and two-family buildings or townhouses when individual dwelling units are provided with laundry hook-ups in a side-by-side arrangement.
    - Central laundry room appliances may be provided as part of the project or supplied by a vendor.
    - Project funding shall not be used for appliances in dwelling units except for Fully Accessible and Adapted, Move-in Ready Units where other Accessible facilities are not available.
5. Parking levels located within buildings are allowable when there is limited availability on site to meet the requirements of the local zoning and planning boards.

6. Detached garages and carports are not allowed. An exception is permitted for carports constructed for solar array installations.
7. Provide finished ceilings in all spaces that may be accessed by residents.
8. The main entrance and community space should be in a centralized location.
9. Community spaces should be functionally and visually related to the circulation pattern of the building(s) and on an Accessible Route. Include adjacent outdoor areas as an extension of indoor community space, whenever possible.
10. Common areas should be convenient and Accessible.
11. Mail collection areas should not be located in an area that may block a circulation path.
12. Elevator lobbies should have a waiting area with wall indicators that clearly display the position of the elevator.
13. Corridors should be a minimum of five feet in width at all points.
14. Projects with 20 or More Dwelling Units:

- a. Provide a community room based upon 15 square feet per dwelling unit. Projects with more than 50 units shall not be required to provide a community room larger than 750 SF. Community rooms exceeding this requirement are acceptable provided that the total maximum allowable residential shared common space area ratio is not exceeded. Each community room shall include additional space for an Accessible kitchenette with cabinets, counter top, refrigerator, sink and an optional residential-style kitchen range. All community room facilities shall provide reasonable hours of access for all residents.



*Inviting community room for residents*

Community room facilities shall be optional at scattered-site developments where there are less than 20 dwelling units on contiguous sites. If a subsequent phase(s) is developed that results in a total of 20 or more dwelling units on contiguous sites in all phases, the subsequent phase shall include a community room facility to serve all phases.

- b. Provide a maintenance closet on every floor of buildings with corridors serving more than 8 dwelling units. Include service sinks at each of these corridor areas or community facilities. Floor finish materials shall be hard-surfaced and water-resistant for ease of cleaning.

- c. Provide a trash collection/recycling room on every floor of buildings with corridors serving more than 8 dwelling units. Include trash chutes and trash compaction systems where appropriate.
- d. Provide adequate bicycle storage facilities that are secure, visible, and conveniently accessible. Although outdoor bicycle racks are acceptable, indoor or sheltered facilities are preferred; these should be easily accessible from the outdoors to minimize the movement of bicycles through the building's lobby and elevators.



*Easily accessible bicycle storage*

15. Senior housing projects (for persons 55 years of age or older) must include:
- a. Comprehensible circulation/pathway systems, such as loop corridors and orienting central spaces.
  - b. Circulation systems that allow for a preview of the route ahead.
  - c. Windows that enhance residents' inside/outside reference points to facilitate navigation and spatial orientation.
  - d. Latent cues that provide visually distinctive landmarks or reference points, such as planter groupings, fish tanks, artwork, curtains, wallpaper, or personal décor. Specialized furnishing, features, or program areas should also be considered. Examples include a piano, a beauty shop, elevators, etc.
  - e. Design considerations that incorporate varied finish treatments and colors per floor or wing to distinguish a sense of place and enhance wayfinding.
  - f. Reference symbols or signage to identify features such as elevators, dining halls, etc. should be located so that they are visible from both direct and lateral approaches to the space.



*Recessed entry and shelf providing a reference point for residents*

### **Accessibility / Visitability Criteria [Interior Common]**

- 1. Laundry facilities must be located, equipped and configured for accessibility.
- 2. Provide mailboxes in accordance with USPS standards. Utilize labels with contrasting colors and large font characters that can be easily read by persons with low vision.



## Quality of Life Criteria [Interior Common]

1. All projects are encouraged to provide activity spaces furnished with exercise equipment to accommodate diverse occupant groups.
2. Senior housing projects (for persons 55 years of age or older) must include:
  - a. A communal gathering area that provides privacy from the main building entrance.
  - b. Common areas with sufficient *preview* areas or windows, so a resident can choose to join present participants or bypass activities.
  - c. Common areas should be designed to accommodate flexible multi-purpose uses while providing an intimate atmosphere for socialization.

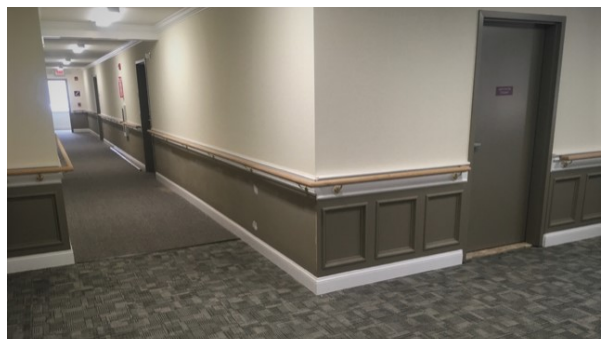


*Multi-purpose common areas for residents*

3. Stairways located near the building's entrance are recommended to encourage stair usage. Integrate the stairs into principal areas and travel paths. Stairs must be accessible, visible, attractive, and well-lit. Consider stair signage next to elevators to encourage stair use.
4. Building common areas shall incorporate criteria for high-speed broadband services as outlined on page 50 of these Guidelines.

## Health and Safety Criteria [Interior Common]

1. Provide high contrast, non-slip nosings at public stairways.
2. Senior housing projects (for persons 55 years of age or older) must include:
  - a. Wall-mounted handrails on each side of corridors in multi-unit buildings with common corridors.
  - b. Contrasting colors/surfaces on steps or landings for edge cues.
  - c. Graduated changes in the level of illumination (including daylighting) to accommodate a slower dark/light adaptation rate.
  - d. Lighting should be indirect, to avoid glare and evenly distributed, to reduce shadows. Increases in the number of lighting fixtures in dwelling units to provide more even light distribution to compensate for age-related vision loss.



*Handrails integrated into design for seniors*

- e. Signage colors that are not pastel tones, dark shades, greens, blues, and violets which are difficult to differentiate as eyes yellow with age.
- f. Large, tactile, contrasting-colored numerals and signs used in elevators, on appliances, at doors, etc. to compensate for declining ability to distinguish edges, small details, and certain colors.
- g. Alarm/warning systems that are available to include both visual and audible signals.
- h. Visual signals available to augment doorbells.

### **Security and Resident Safety Criteria [Interior Common]**

- 1. Provide vision panels in all doors located in the path of egress and in common use areas such as laundry and community rooms.
- 2. Provide safe and secure interior public circulation, including areas such as elevators and stairwells.
- 3. Security cameras may be included in interior public spaces, including hallways, stairways, and community rooms at projects with heightened security concerns.
- 4. For projects in areas with security concerns, provide a security alarm at all exterior door units.

### **Operational Efficiency and Durability Criteria [Interior Common]**

- 1. In family multiple dwelling unit rental projects, public corridors and stairways shall have vinyl composition flooring, other heavy-duty hard-surface flooring, or heavy-duty commercial grade carpet tile. Selection of materials and patterns shall consider aesthetic appeal appropriate for residential occupancy.
- 2. Slip-resistant ceramic or quarry tile applications may be provided at entrances, lobbies or vestibules where durability or water protection is a concern.
- 3. Common-use exterior doors (main and secondary) and high-use, common and maintenance doors (including exterior laundry, trash and activity room doors) shall include:
  - a. Grade 1 mortise locksets with a one-inch throw deadbolt, or heavy-duty/grade 1 electronic hardware.
  - b. Lever handles on doors not receiving panic hardware.
  - c. Master keyed or programmable electronic locking device.
  - d. Closer at all exterior doors, and where appropriate elsewhere.
  - e. Door stops/bumpers, as appropriate.
- 4. Occupancy sensor lighting controls are highly encouraged at common use/utility spaces.

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## Dwelling Unit Space

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The following criteria shall be included where applicable or specifically stated as required. These criteria have been created to provide a basic framework for the design of dwelling units and are intended to promote efficient use of space and functional floor plans with considerations for Universal and Accessible design, where appropriate. Related considerations are the durability of materials, finishes, systems, etc. and maintaining affordability for tenants.

### Design and Context Criteria [Dwelling Unit]

#### 1. Dwelling Unit Definitions

- a. A dwelling unit is defined as the private space provided for the exclusive rights of a tenant or homeowner. Dwelling unit space includes all spaces within a dwelling unit, such as living, dining, kitchen, bedroom, bath, storage/closet, and circulation spaces. This shall include any mechanical closets and chases that serve the dwelling unit. Remote bulk storage shall be included as part of the dwelling unit space up to the areas listed in the bulk storage table in the HCR Design Guidelines.
- b. The area of the dwelling unit is defined as the square footage measured from the interior finish surface of the exterior wall to the centerline of common wall(s) separating adjacent common space or other dwelling unit(s).
- c. Unit occupancy is based upon two persons per bedroom **when determining occupancy for HCR design requirements.**

#### 2. Dwelling units shall comply with the dwelling unit area ranges listed below:

##### *Dwelling Unit Area Ranges*

Dwelling Unit Type	Minimum Area	Maximum Area	Maximum Area including Bulk Storage
0 bedroom/Studio-	400 sq. ft.	550 sq. ft.	560 sq. ft.
1-Bedroom-	600 sq. ft.	725 sq. ft.	745 sq. ft.
2-Bedrooms-	750 sq. ft.	950 sq. ft.	970 sq. ft.
3-Bedrooms-w/additional one-half bath	900 sq. ft.	1,150 sq. ft.	1,175 sq. ft.
4-Bedrooms-w/ additional full bath	1,050 sq. ft.	1,300 sq. ft.	1,325 sq. ft.
5-Bedrooms-w/ additional full bath	1,200 sq. ft.	1,450 sq. ft.	1,475 sq. ft.

As noted in the Design Guideline Goals and Objectives, projects in New York City with HPD involvement may utilize HPD criteria for dwelling unit size. Projects in New York City without

HPD involvement may decrease the minimum area by 50 sq. ft. per dwelling unit type. The minimum area permitted for dwelling unit sizes shall exclude bulk storage area.

Dwelling unit sizes may exceed the maximums indicated in the table under these conditions:

- a. To meet current market demands in mixed-income projects with market-rate units.
  - b. In non-historic substantial rehabilitation projects, to comply with existing conditions, increases are limited to a 100 square foot increase per dwelling unit.
  - c. In historic renovation/adaptive reuse projects constricted by existing historic characteristics, any dwelling units that exceed the maximum permitted area by 100 square feet shall be submitted to DC&E for review of reasonableness.
  - d. By 50 square feet in multi-level, dwelling units to accommodate the additional half bath required for Visitability.
  - e. Dwelling units located on more than one level; up to 60 square feet per floor to account for stairs.
3. Mixed-income projects shall equally and proportionally distribute dwelling units with varied levels of affordability throughout the project and buildings with respect to location, size and access to amenities. Affordable units shall not be isolated to a specific floors, or specific areas in the project based on their level of affordability.
  4. Dwelling units are to comply with floor level tolerances indicated in Interior Shared Common Space section of these Guidelines.
  5. Unit Entries
    - a. Entries at the living/dining room should be screened or separated from the living space, and circulation into the unit should avoid traversing through the furniture area.
    - b. Unit entries at kitchens should avoid direct circulation through the kitchen proper.
    - c. Entries from the exterior shall have a hard-surfaced and water-resistant floor finish area for ease of cleaning. The size of this area and transition to other flooring shall comply with Accessible Route criteria where applicable.
  6. Kitchen/Kitchenette
    - a. Kitchens shall be equipped with base and wall cabinets, a thirty-inch wide range/oven, lighted range hood, vented exhaust fan, refrigerator and a minimum 24-inch wide kitchen sink.
      - Kitchens shall be sized to accommodate the maximum number of residents who may reside in the dwelling unit, including cabinetry and shelving.
      - Ranges and cooktops should not be placed against side walls.
      - In zero, one, and two-bedroom units, provide a 14-cubic foot, two-door, frost-free refrigerator with freezer compartment.
      - In three bedrooms or larger units, provide an 18-cubic foot, two-door, frost free refrigerator with freezer compartment.
      - The size of kitchen sinks shall be increased and include double bowl sinks for larger family units, as appropriate.

- b. Kitchens should have natural light or be open to the living room/dining room via a pass-thru window arrangement.
- c. Provide a 12-inch dropped header to minimize false smoke alarm detection and premature staining of paint in other rooms. Where this would result in a soffit less than 6'-8" above the finished floor, provide a dropped header as deep as possible without encroaching on the minimum clear height required by the applicable building code.
- d. When range hoods are ducted through the overhead wall cabinet, the duct must be "boxed in" with a finished wood enclosure, **with the remainder of the wall cabinet space usable, or the cabinet doors shall be secured to prevent access.** Range hood ductwork located above the wall cabinets must be concealed, such as in a soffit.



*Boxed-in duct through range hood cabinet*



*Dropped header at kitchen*

## 7. Living Room/Dining Room

- a. Living and dining rooms should be sized to accommodate the maximum resident occupancy of the unit and anticipated furniture placement.
- b. Living Room/Dining Room areas should have windows that allow for viewing the exterior when seated.
- c. A minimum of one wall, preferably two, should be provided with no fenestration or interfering doorways to allow for adequate furniture placement.

## 8. Bedrooms

- a. The primary bedroom is to have 100 square feet of usable area with preference to 10 feet by 10 feet.
- b. Secondary bedrooms shall be a minimum of 80 square feet with the smallest dimension compliant with usable furniture arrangements.
- c. The layout of the bedrooms must be of sufficient size to accommodate a bed, storage chest, night table, chair, and circulation space. Accessible/Adaptable rooms shall be sized to accommodate wheelchair maneuverability.
- d. All bedrooms shall have a 2'-8" or larger door unit with a privacy lockset.
- e. Bedrooms should be located for privacy (visible and audible) and security.
- f. Bedrooms should be grouped together and located away from the living/dining/kitchen.
- g. Every bedroom shall have a two-foot deep by four-foot or wider, closet with a shelf, closet rod, and a door.
- h. Closets should be used to provide a sound barrier between bedrooms.

## 9. Bathrooms

- a. All zero bedroom and larger units shall have a bathroom containing a nominal 30"x60" bathtub unit with a showerhead, a vanity sink, a 30" tall mirrored medicine cabinet, and a toilet. A nominal 33"x63" shower unit may be provided in lieu of a bathtub unit to meet the needs of mobility-impaired residents. Bathroom hardware shall include a shower curtain rod permanently anchored to the wall, toilet paper holder, two towel bars, and robe hook(s). Three-bedroom units shall have an additional half bathroom containing a sink, mirror, and toilet. Every four-bedroom and larger unit shall have a second full bathroom containing a bathtub as noted above or a 36"x36" or larger shower unit.
- b. All bathtubs/shower units must be provided with a safety grab bar (to grab onto in the event of a fall) and a soap dish in the tub/shower unit.
- c. Bathrooms and showers shall have a slip-resistant finish.
- d. Provide wall reinforcement/blocking for mounting future grab bars at all Accessible, Adaptable and Visitable locations.
- e. All bathrooms shall have a 2'-6" or larger door unit with a privacy lockset.
- f. All bathrooms shall be mechanically ventilated.
- g. Windows shall not be located within the tub/shower surround.
- h. Bathrooms should be located in an area convenient to bedrooms. Primary bathrooms should be located outside of, but adjacent to bedrooms.
- i. Whirlpool baths or spas and similar luxuries are not allowed unless specifically agreed to by the program manager of the funding source being sought.
- j. Vanities shall be provided with all lavatory sinks. See building code requirements for removable cabinet criteria. Accessible shelving or a base cabinet shall be provided immediately adjacent to the sink in Accessible/Adapted, Move-in Ready dwelling units.
- k. In buildings designed specifically for the occupancy of seniors and/or special-needs occupants with mobility impairments, at least one code compliant grab bar shall be installed in every tub and/or shower unit.
- l. All pre-manufactured tubs/shower units are to be at a minimum made of a seamless one-piece molded construction. Existing units may utilize multi-piece tubs when one-piece tubs cannot be delivered in place due to limitations of the remaining construction.



*Lavatory and bathtub/shower*

## 10. Storage Areas

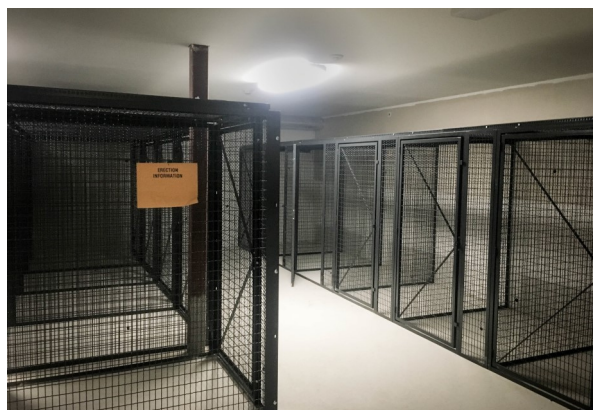
- a. Dwelling units shall include closets near main entries for outerwear and bulk storage rooms within the dwelling unit or in common storage rooms, as listed below:



*Storage Area Chart—Minimum required areas*

Dwelling Unit Type	Entry Area Storage Closet	Bulk Storage
0 bedroom/Studio	6 sq. ft.	10 sq. ft.
1 and 2 Bedroom	8 sq. ft.	20 sq. ft.
3-Bedroom	10 sq. ft.	25 sq. ft.
4-Bedroom	12 sq. ft.	25 sq. ft.
5-Bedroom and larger	14 sq. ft.	25 sq. ft.

- b. Every dwelling unit must contain a storage closet for linens with 6 linear feet of shelving with minimum dimensions of 1 foot, 6 inches deep and 2 feet, 0 inches wide.
- c. Bulk storage located in basements or other areas subjected to high ambient moisture or humidity shall be waterproofed, ventilated, and dehumidified to prevent damage to stored items.
- d. Bulk storage may be omitted in areas where basements cannot be provided due to high water tables, poor soil conditions, or rock that cannot be cost-effectively excavated and are governed by a zoning ordinance floor area ratio, or other local zoning restrictions that would result in the loss of dwelling units as a result of complying with this storage requirement. In such cases, alternative storage facilities, such as negotiated discounts to nearby commercial facilities, are encouraged.
- e. Dwelling unit sizes may be increased up to the minimum areas listed in the bulk storage table above, to accommodate bulk storage space located within the dwelling unit, or in remote storage areas.
- f. All bulk storage closets or bins outside of dwelling units must have doors with locking hardware.
- g. Walk-in storage closets should be provided with a light and wall switch.



*Fully enclosed remote bulk storage including top*

**11. Dwelling Units for Seniors**

The following criteria are considered superior design solutions for senior apartments (for 55 years and older residents):

- a. Complete apartments that include a kitchen, bathroom(s), living room, dining area, and bedroom(s), rather than studio/efficiency units.
- b. Design elements that allow for unique treatment of apartment entryways to facilitate wayfinding, reduce an institutional appearance and promote personalization.
- c. Window sill heights that are no greater than 32 inches above the finished floor to allow viewing of the outside from a seated position.
- d. Pantry cabinetry in lieu of wall cabinets over the stove, refrigerators, and sinks.

- e. Switches and other operable devices no more than 48 inches above the finished floor height and mount electrical outlets between 18-24 inches above the finished floor.
- f. Lever faucet controls for the kitchen sink and bathroom lavatory.
- g. A hand-held shower head with at least 5 feet of hose on an adjustable bracket.

## 12. Floor Finishes

The following acceptable floor finishes should be selected to enhance the residential appearance of the dwelling unit and not result in an institutional overtone in the space:

- a. A minimum of 26 oz., level-loop, commercial grade carpet or a minimum 26 oz. residential cut-loop carpet.
- b. Resilient vinyl flooring with a minimum thickness of 0.080"
- c. Vinyl composition tile with a minimum thickness of 1/8"
- d. Superior grade flooring products such as:
  - luxury vinyl tile
  - water resistant laminate flooring
  - 5/8" solid bamboo flooring
  - 3/4" tongue and groove hardwood flooring.

Provide waterproof assemblies for floor systems in laundry rooms, bathrooms, or similar spaces prone to water damage. Extend waterproofing four inches or more above the floor. Waterproofing may be accomplished with the finish flooring by utilizing sheet vinyl flooring and a fully caulked vinyl base to ensure a watertight installation, or ceramic tile with an integral 4" base.



*Resilient flooring*



*Ceramic/porcelain tile floor with base*

## Accessibility / Visitability Criteria [Dwelling Unit]

1. All dwelling units shall meet the Agency Visitability criteria.
2. Modifications to adapt an element for accessibility must be accomplished without structural changes or damage to adjacent elements and surfaces.
3. Porches, balconies, and patios associated with Accessible/Adaptable and Visitable dwelling units must be on an Accessible Route, in compliance with applicable Accessibility standards and meet HCR Visitability standards.

4. Large windows, such as those at historic renovation projects, shall include window hardware which eases window operation for senior residents and residents with physical disabilities.
5. Removable base cabinets shall be comprised of a removable front panel(s) that can be easily removed without damage to countertops, sinks, and lavatories and their supporting structure.
6. Cabinet handles are preferred, but at a minimum, finger pulls must be provided on all base and wall cabinets provided that handles are provided when requested by the tenant. For senior units and dwelling units adapted for residents with physical disabilities, provide loop or D shape handles on cabinet doors and drawers.
7. Kitchen ranges, cooktops, and ovens at Accessible and fully adapted locations and in all dwelling units for seniors shall be provided with front controls. Kitchen ranges, cooktops, and ovens in dwelling units adapted for hearing or vision impaired persons shall have front controls knobs with directional indicators or have other means or creating set points with textured/tactile feedback or automation.
8. Controls for range hoods provided in Fully Accessible, Move-In Ready units for mobility-impaired residents and adaptable units (per building code and/or Section 504), shall be provided with wall switches to control fans and lights unless prohibited by the manufacturer due to the electronics in the unit. Wall switches should comply with requirements for operable parts in applicable accessibility standards.
9. Avoid dark color countertops, cabinets, and appliances in dwelling units for seniors or other residents who may have vision impairments.
10. Pre-manufactured bathtub and shower units in Adaptable dwelling units shall be factory reinforced to accept grab bars meeting applicable Accessibility requirements. Pre-manufactured bathtub and shower units in Accessible/Fully-Adapted locations shall be factory equipped with all required grab bars.
11. When grab bars and shower seats are installed by housing providers, installers shall ensure that materials used, including mounting brackets and other hardware, are appropriate for the installation, will not deteriorate as a result of the use of dissimilar metals or water infiltration, and are securely attached to wall reinforcement.
12. Circuit breakers and electrical panel door latches shall be located within an Accessible height reach range in Accessible and Adaptable dwelling units.
13. Dwelling units designed as serving residents with hearing or vision impairments, are to include at a minimum, the following audible/visual (A/V) features:
  - a. Hardwired unit entry doorbell with A/V features. Locate the doorbell with A/V features in the living room and bedrooms. Include a control to allow the tenant to deactivate the bedroom visual feature. Audible sound of the doorbell shall be a chime. Doorbell sounds that can be confused with a fire, smoke or carbon monoxide (CO) alarm shall not be used.

- b. Where intercoms are provided, include a system with A/V features.
- c. Smoke detectors with A/V features.
- d. Carbon Monoxide detectors with an A/V notification.
- e. Building fire alarm with A/V notification in the living room and bedrooms.
- f. Building fire alarm with a visual strobe feature only in the bathroom. Audible alarms are to be avoided to prevent undue startling of the occupant; accordingly, audible alarms in the dwelling shall be at a decibel to be readily audible in bathrooms.



*Fire alarm/smoke and CO detector strobe*



*Intercom, doorbell, and phone with A/V features*

## **Quality of Life Criteria [Dwelling Unit]**

1. Provide mini-blinds at all dwelling unit windows and doors with vision panels.
2. Provide central heat to all habitable rooms. If kitchens and bathrooms are not heated by the dwelling units HVAC system, these rooms shall be conditioned with suitable supplemental heating units contained within the same space or borrowed from the adjacent space.
3. All apartments shall be treated as individual heating zones controlled by a wall-mounted thermostat in each apartment. For dwelling unit heating systems, provide a programmable thermostat capable of maintaining different temperature set points at different times of the day. In buildings with common heating systems, provide either programmable thermostats in each apartment or building system set-back controls, as allowable by the applicable building codes.
4. Provide wall sconces or ceiling fixtures controlled by a wall switch in each room and corridors of all dwelling units. Separate fixtures shall be provided in the living and dining areas of dwelling units. Due to the tendency to trap and collect insects and debris, ceiling fixtures shall be a pendant type fixture with the lamp exposed on the bottom, have a glass enclosure that completely surrounds the lamp, or shall be designed in such a manner as to not trap foreign matter. Ceiling fixtures that have a glass plate suspended below the lamp are not acceptable. Do not use recessed light fixtures at insulated ceiling areas.
5. Provide increased lighting levels in senior projects to account for age related decreases in vision.

## Health and Safety Criteria [Dwelling Unit]

1. All habitable rooms shall have natural light equal to or greater than 8% of the floor area and natural ventilation equal to or greater than 4% of the floor area.
2. Tub/shower fixture handles must be a paddle handle type, single-mixing valve with a scald-proof feature.
3. All tub and shower units are to be provided with a slip-resistant finish.
4. In senior **projects**, provide an emergency call system in **resident common area bathrooms and in each** dwelling unit's bedroom and bathroom that is connected to a central station and an annunciator panel in the lobby or vestibule. Provide a toggle switch activated in a downward direction and pull cord dropping to within 4 inches above the floor. Provide indicator lights over each dwelling unit entry door. Hardwired systems connected by wireless signals are acceptable if the pull stations are manufactured to be permanent built-in fixtures and the system activates a central station. Emergency call systems shall be provided at no charge to the tenant.

## Security and Resident Safety Criteria [Dwelling Unit]

1. Provide a security peephole on all dwelling unit entry doors.
2. Doors located on patios and balconies shall include hardware and thresholds that meet Accessible standards or are capable of being adapted to provide reasonable accommodations. Patio doors shall be fabricated from fiberglass, insulated steel or solid wood with aluminum or vinyl cladding.
3. Doors located on patios and balconies shall be capable of providing security in closed and vented positions. Patios located within two stories of grade or accessible from an adjacent apartment or other areas shall comply with one of the following security options:
  - a. Swing door with a grade 2 deadbolt and small venting sidelights.
  - b. Swing door with a grade 2 deadbolt, locking heavy-duty door screen panel, and an adjacent window that locks in the vented position.
  - c. Sliding patio door with a heavy-duty door lock comparable to a grade 2 deadbolt such as a floor level heavy-duty deadbolt that securely locks in the closed and vented positions, and heavy-duty screen panel frame.
  - d. Sliding patio door with a heavy-duty door lock comparable to a grade 2 deadbolt, such as an attached hinged telescoping rod with heavy duty bolts for fixing the door securely in the closed and vented positions, and heavy-duty screen panel frame.
4. For multiple dwelling unit projects located in areas with security concerns, provide decorative security grilles at windows and doors with glass lights accessible from the exterior. Security grilles must be constructed of expanded metal or wrought iron and secured in place with hardware that is not removable from the exterior. Security grilles must be operable when required for emergency egress.

5. Provide a doorbell system for all exterior dwelling main entry doors.
6. Provide an intercom system for multiple dwelling projects where unit entry doors are not accessible directly to the exterior.

### **Operational Efficiency and Durability Criteria [Dwelling Unit]**

1. Dwelling unit entry door units that are accessed from a common corridor are to be made of reinforced hollow metal conforming to Steel Door Institute Standards, or solid core wood.
2. Interior room doors are to be at a minimum molded hardboard construction.
3. Dwelling unit entry doors (main and secondary) including townhouses and single-family buildings shall include:
  - a. Grade 2 lockset and one-inch throw deadbolt.
  - b. Grade 2 or better locksets with lever handles at senior and Accessible/Adaptable units.
  - c. An Accessible threshold at exterior doors for VISIBLE and Accessible/Adaptable units.
  - d. Master keyed or programmable electronic locking devices.
  - e. A mechanical doorbell or a decorative door knocker which includes a permanent apartment identity label at interior dwelling unit entry doors.
  - f. Self-closing devices at dwelling unit entries that open onto interior common space/corridor.
  - g. Door stops/bumpers, as appropriate.
4. Windows are to be provided with sash handles or integral levers at operable sashes.
5. Provide one coat of primer and one coat of paint to all interior walls and ceilings except in the bathroom, kitchen, shared common space walls, and all trim where one coat of primer and two coats of semi-gloss or eggshell-gloss paint must be provided.
6. Gypsum board walls shall be equivalent to a smooth level four finish in compliance with Gypsum Association standards. Dwelling unit ceiling finishes must be smooth finished, rolled, sprayed, or uniformly textured painted gypsum board. Suspended ceiling tiles are not acceptable.
7. Provide moisture-resistant gypsum wallboard on all walls of bathrooms with bathtubs or showers.
8. For ceramic tile applications, provide thin-set mortar over cementitious backer board. Ceramic tile bathtub and shower surrounds shall receive solid wood blocking for the installation of grab bars.
9. Provide a finished base at all exposed walls and cabinetry, toe kicks, and exposed side panels.
10. Provide ENERGY STAR labeled refrigerators and other appliances, when commonly available.
11. Kitchen and bathroom cabinets shall be ANSI/KCMA A161.1 certified. Additionally, all cabinet doors, drawer panels, and face frames shall be of natural wood or with a high-pressure



decorative laminate (HPDL) finish constructed of combination core plywood (MDF and veneer plywood core only).

12. Provide adjustable hinges at all cabinet doors, i.e. European hinge type or similar.
13. In all family dwelling units, countertops and backsplashes must be exterior grade plywood or other equally water-resistant panels with a high-pressure decorative laminate (HPDL) finish. Standard particleboard countertops and backsplashes are permitted in senior dwelling units. Higher grade countertops are discouraged but may be permissible in projects with market-rate units in the context of providing affordable units with equivalent amenities and finishes.
15. Provide a minimum of one prewired telephone jack in the living area of each dwelling unit. The entire telephone system is to be prewired. Cables are to be concealed within walls, ceilings, floors, chases, etc.
16. Nontraditional telephone service, such as internet telephone service, may be provided when all of the following are met: the building fire, smoke, emergency call, and security alarm systems are compatible with the nontraditional system; the nontraditional system is compatible with the area's 911 emergency system, if available; service features are, at a minimum, equivalent to the traditional basic service; the base service is more economical for the residents than the traditional basic service.
17. Provide a minimum of one prewired cable TV outlet in the living area. Cable systems are to be prewired at no cost to the tenants. Cables are to be concealed within walls, ceilings, floors, chases, etc.
18. Projects shall provide high-speed broadband services for all residents as a part of their lease contract and at no additional cost to the tenant. At a minimum, high-speed broadband services shall meet the following criteria:
  - a. Wireless internet service throughout each dwelling unit.
  - b. At least one hard-wired internet outlet in the living room.
  - c. Individual secured accounts for access in each dwelling unit.
  - d. Minimum of 100 megabits per second wired download speed per dwelling unit.
  - e. Flexibility for each tenant to enhance their service at their own cost.
  - f. Data cables are to be concealed within walls, ceilings, floors, chases, etc.
  - g. Wireless internet in residential common areas such as lobbies, community rooms, computer rooms and outdoor common areas that is provided via common secured wi-fi or individual secured wi-fi accounts.
  - h. Bulk purchasing should be utilized, where feasible.
19. Projects should consider providing flexibility in the high-speed broadband infrastructure to accommodate future use and capacity demand, as well as future service improvements. It is recommended that projects retain ownership of the high-speed broadband infrastructure within the building and consider a managed system with a third-party internet service provider (ISP) that include customer service, network diagnostics, billing and other services to benefit the end-users.

# Appendix A - Preservation Standards

For Moderate Rehabilitation Projects proposing to renovate occupied affordable housing buildings, the following standards shall apply:

1. All existing conditions, components and systems shall be evaluated utilizing the Fannie Mae Property Condition Assessment Base PCA format or the Integrated Physical Needs Assessment (IPNA) format. Assessments shall include life expectancy values in accordance with the assessment format and account for local conditions, which may reduce life expectancies due to unique situations and project-specific conditions. Architects and engineers currently registered in New York State with three years of experience in the renovation of existing affordable housing projects, and firms specializing in physical need assessments meeting the requirements of the assessment format may prepare physical need, property condition and other similar assessments of the physical condition of buildings and grounds for project submissions to HCR. Additional certifications required for an Integrated Physical Needs Assessment are still applicable. **PCAs and IPNAs shall be completed within two years of the date of the project application.**
2. All new work and components shall meet the requirements of these Guidelines for new and substantial rehabilitation projects to the greatest extent feasible.
3. All projects must replace or repair components, finishes and systems which have less than a 15-year lifespan per the following criteria:
  - a. Components, systems and finishes that will have a useful life of 5 years or less at the completion of the rehabilitation work shall be replaced as part of the project scope.
  - b. Replacement of components systems and finishes that will have a useful life of 5-10 years at the completion of the rehabilitation work is strongly recommended.
  - c. Other systems may be replaced within the 15-year period if it is documented that there will be sufficient replacement reserves available when these replacements are anticipated.
  - d. **Exceptions for equipment that is in good working condition and can be verified as such by a third-party inspector may be permitted with approval from DC&E.**
4. The work scope shall include hazardous material evaluation and mitigation.
  - a. Provide a lead assessment survey and develop a lead-based paint work plan for projects constructed prior to 1978, in accordance with the current HUD Guidelines. Refer to *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (HUD-1539-LBP); and the *EPA Renovation, Repair and Painting Rule* (40 CFR Part 745).
  - b. Conduct an asbestos survey and corresponding asbestos removal plan for projects which have not undergone an asbestos removal plan, do not have a current asbestos survey, or otherwise are suspected to contain asbestos containing materials which were not previously addressed. Asbestos surveys (and removal plans) shall include testing for gypsum board and associated joint compound. All such asbestos containing materials discovered in the work areas shall be abated. Asbestos containing materials that are intact

and unlikely to be disturbed in senior citizen dwelling units may remain in place if controls are established to eliminate disturbance of the material. This shall include tenant notification and acknowledgment of the potential hazard.

- c. Provide a survey to determine if hazardous mold exists in the building. Where mold is identified, it must be addressed in accordance with the provisions stated elsewhere in this document.
  - d. Radon mitigation shall be addressed as described in the “Radon” section of “Common Regulations, Laws and Guidelines” of this document.
  - e. Assess other readily observable hazardous materials such as leaking oil tanks, stored hazardous materials, and fluorescent light ballasts containing PCBs.
- 5. Regrade as necessary to provide positive drainage away from buildings.
  - 6. Correct deficiencies of the exterior Accessible Route unless technically infeasible. Include work such as repaving sidewalks along Accessible Routes, adding or repairing curb cuts, restriping parking lots and adding signage at Accessible parking aisles.
  - 7. Common areas shall be made Accessible to the greatest degree feasible.
  - 8. Relocate laundry facilities for Accessibility, when feasible.
  - 9. Include handrails that are easy to grasp on each side of corridors in senior housing projects.
  - 10. Test all elevators and include all necessary repairs in the proposed work scope.
    - a. Add wall indicators at the entry-level elevator lobby.
    - b. Upgrade elevator controls and alarms to current Accessibility standards.
  - 11. Provide new window treatments at all dwelling unit windows meeting these Guidelines.
  - 12. Provide decorative security grilles for all windows accessible from the exterior at multiple dwelling unit buildings located in areas with safety concerns. Where possible, locate security grilles at the exterior. Provide at least one security grille in each habitable room which can be opened in an emergency from within the apartment.
  - 13. Provide locks that are tamperproof from the exterior for all windows that are accessible from the exterior.
  - 14. Repaint all dwelling units and interior public spaces, unless recently repainted and will remain in a freshly painted condition after the renovations are completed.
  - 15. Replace all existing carpeting with new, unless recently replaced and in like-new condition after the renovations are completed. Existing carpeting shall be thoroughly cleaned and fumigated.
  - 16. Provide a noncombustible wall surface where existing kitchen ranges abut sidewalls.
  - 17. Provide a safety grab bar at all bathtubs and shower units, if none currently exist.

18. Provide safety guards or decorative heavy-duty wire mesh as necessary to prevent a 4" sphere from passing through balcony and stair railings.
19. Incorporate integrated pest management within the areas undergoing the renovation work that includes sealing openings, cracks and joints to limit the infestation of insect and vermin from entering the building or migrating from one apartment or common area to another.
20. Test all fire alarm systems and sprinkler system alarms. Include all necessary repairs in the work scope.
21. Test all emergency and exit lights. Replace fixtures accordingly.
22. Provide fire alarm systems meeting the current requirements of the applicable building code, if none currently exist.
23. Provide new hardwired smoke alarms and CO detectors in dwelling units meeting current requirements of the applicable building code for new buildings, if none currently exist.
24. Replace all existing smoke alarm, CO alarm and fire alarm detector heads throughout the building.
25. Provide fire extinguishers in cabinets as required by the applicable building code.
26. Balance and commission all HVAC systems.
27. Upgrade existing electric heating and electric hot water heaters where utility charges have negatively affected the affordability of the project. High-efficiency electric heating systems and domestic hot water systems should be considered in place of fossil-fuel sourced appliances, except when:
  - Sufficient electrical service is not available and cannot be made available by the utility company in a reasonable time, or at a reasonable cost.
  - There is not sufficient equipment for the size of the project available on the market.
28. Replace all light bulbs with ENERGY STAR, LED, or equivalent luminaire lamps. Where fixtures are replaced, light fixtures shall be ENERGY STAR rated or provide the equivalent in energy savings or quality.
29. Submit documentation of any existing Building Code violations or other noncompliance conditions. Include the correction of these conditions in the work scope.

For Moderate Rehabilitation Projects that utilize federal Housing Trust Fund (FHTF) as a funding source, the project must also comply with the U.S. Department of Housing and Urban Development (HUD) Federal Housing Trust Fund Requirement 24 CFR § 93.301 (b) - Property standards for rehabilitation projects and meet the following requirements:

1. Be decent, safe, sanitary, and in good repair as described in 24 CFR 5.703.
2. Where relevant, be improved to mitigate the impact of potential disasters (e.g. earthquake, hurricanes, flooding, and wildfires) in accordance with State and local codes, ordinances, and requirements, or such other requirements as HUD may establish.
3. Provide for installation of broadband infrastructure, as this term is also defined in 24 CFR 5.100, except where determined and documented by New York State Homes and Community Renewal in accordance with 24 CFR 93.407(a)(2)(iv) that:
  - a. The location of the substantial rehabilitation makes installation of broadband infrastructure infeasible;
  - b. The cost of installing broadband infrastructure would result in a fundamental alteration in the nature of the project or in an undue financial burden; or
  - c. The structure of the housing to be substantially rehabilitated makes installation of broadband infrastructure infeasible.
4. If the remaining useful life of one or more major system is less than the project's period of affordability (at least 30 years), a replacement reserve with monthly payments of adequate size must be established to repair and replace systems as needed.

# Appendix B - Submission Requirements

The following submission requirements apply to projects applying for and awarded funding under the HCR Multifamily Finance 9% Competitive Process. All submissions referenced in this section, from preliminary design documentation at the project application to the final construction contract documents, shall be the responsibility of a single licensed design professional or firm.

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## Application Submission

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### Neighborhood Plan

Provide a neighborhood plan(s) to identify the location of the subject site(s) in context to the greater neighborhood.

1. Orient the plan by utilizing a north arrow.
2. Identify all sites and buildings with the same designations used on other plans in the submission.
3. Provide a plan large enough to sufficiently identify all of the properties and land uses that have an impact on the subject site(s).
4. For multi-site projects, separate neighborhood plans may be used where the subject sites are located in separate geographical areas.
5. Identify the uses of surrounding properties.
6. Identify abandoned buildings and vacant properties.
7. Identify major buildings and land uses by name.
8. Indicate parks, schools, recreational areas and commercial districts.
9. Indicate major roads, highways, railroads, waterways, etc.
10. Indicate the approximate boundaries of wetlands, floodplains, and floodways.

### Site Plan(s)

1. Orient site plan(s) and floor plans in the same direction by utilizing a north arrow.
2. Indicate existing locations of building(s), roadway(s), parking area(s), utilities, plantings, etc.
3. Indicate existing site restrictions including setbacks, rights-of-ways, boundary lines, property lines, etc.
4. Indicate all proposed changes to building(s), roadway(s), parking, utilities, plantings, etc.
5. Indicate zoning classification.
6. Provide zoning calculations for projects located in New York City.
7. Indicate notations of all new and existing materials.
8. Indicate existing and proposed site slopes and approximate grade elevations.
9. Indicate boundaries of any unusual site features, i.e., 100-year flood plain, wetlands, bedrock outcroppings, retaining walls, etc.
10. Indicate Accessible Routes in accordance with applicable Accessibility requirements.



## **Floor Plan(s)**

1. Orient floor plans and site plan in the same direction by utilizing a north arrow.
2. Indicate all proposed changes to building components identifying removals and new construction.
3. Indicate room/space designations and typical furniture layouts (for preliminary document submission only).
4. Provide a building code analysis indicating:
  - a. Applicable code with chapters/sections as appropriate.
  - b. Occupancy classification
  - c. Construction type
  - d. Required setbacks
  - e. Area and height requirements
  - f. Fire separation requirements
  - g. Exiting requirements, including exit distances.
  - h. Fire protection systems
  - i. Fire area allowances
5. Indicate any deviations that were allowed by an official code variance.
6. Indicate fire-rated assemblies.
7. Indicate gross building square footage, including subdivisions between residential and nonresidential uses in mixed-use buildings.
8. Indicate interior gross building square footage and interior gross dwelling unit square footage.
9. Provide general notes identifying all new and existing materials.
10. Provide overall building plans and apartment plan types. These may be combined when it can be provided in a legible manner.
11. Label all rooms and floor levels.
12. Identify Viable dwelling units.
13. Identify fully Accessible, move-in ready dwelling units for mobility and hearing/visually impaired residents.

## **Appendix C - Area Calculations**

1. Include area calculation diagrams in the set of drawings.
2. The area calculation diagrams shall correspond to the Area Calculations Form submitted in the HCR Multifamily Finance 9% Application. Detailed information on this submission can be found in Appendix C of this document.

## **Exterior Building Elevations**

1. Provide elevations of all sides of buildings. One drawing may be provided for multiple identical elevations. Label such drawings accordingly.
2. Provide existing condition elevations for renovation projects.
3. Provide all proposed new conditions for building renovations.
4. Provide general notes identifying all existing and new materials.
5. Indicate overall building heights.

6. Indicate finished floor heights/elevations.
7. Indicate finish grade elevation.

### **Exterior Wall Section(s)**

1. Indicate construction system(s), including building enclosure systems (walls, roof, foundations, etc.)
2. Indicate floor systems, heights and elevations of floors, grade elevations, ceilings, structure, windows elements, etc.
3. Indicate overall building heights and dimensions.
4. Indicate insulation R values and other energy conservation components.
5. Indicate HVAC components and systems.

### **Building Rendering(s) – optional:**

This drawing is not required but strongly recommended to allow the applicant to show the intended building design and how it relates to the surrounding neighborhood.

### **Outline Specifications**

Provide outline specifications utilizing the forms provided in the application. The specifications shall sufficiently detail the components and systems proposed for the project.

### **Construction Cost Estimate**

Provide a construction cost estimate prepared by a builder or construction estimator utilizing the forms provided in the application.

Cost estimates shall provide costs of each line item indicating the quantity, unit costs and total cost of each line in sufficient detail to fully represent the construction budget. Lump sums are not acceptable. Include detailed information on all items budgeted as General Conditions and General Requirements in compliance with the Capital Programs Manual. Failure to provide sufficient detail may result in adjustments in funding due to a lack of justification of costs.

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## **Post Award Submission**

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### **Construction Documents**

Submission of 100% complete construction document drawings and project manuals with specifications shall be provided according to the timetable issued by the funding program managers. Drawings shall be limited to a maximum of 24 inches by 36 inches whenever possible. The construction document submission shall include the criteria noted above and, at a minimum, the following:

#### **1. Site Plan(s)**

- a. Indicate topography, all drainage structures, and utilities.
- b. Indicate Accessible Routes, Accessible parking, curb cuts, parking area striping, etc.

- c. Provide details of all new construction including sidewalks, paving, retaining walls, landscaping and plantings, utilities, fences, etc.
- d. Indicate stormwater management criteria.
- e. Indicate boundaries of flood plains, wetlands, easements, and other land restrictions.
- f. If public utilities are not available and a well and/or leach field are proposed, provide a test well report showing: gallons per minute (GPM), potability, local authority review and approval, and a soils percolation test report.

## **2. Architectural Floor Plan(s)**

- a. Indicate all existing areas, demolition and new construction work in sufficient detail or with references to detailed plans provided elsewhere in the drawing set.
- b. Indicate all approach and maneuvering clearances in accordance with applicable Accessibility requirements.

## **3. Roof Plan(s) and Details**

- a. Indicate all roof structures. Note their material, type, and fire rating classification.
- b. Indicate roof drains, hatches, smoke vents, parapets, vent pipes, ventilators, intake/exhaust shafts, chimneys, skylights, etc.
- c. Indicate roof pitch or slope.
- d. Detail roof components including all roof surfaces, flashing details of roof system components, and details including all penetrations, equipment, terminations, flashings, copings, etc.

## **4. Exterior Elevations**

- a. Indicate all proposed grade elevations at building lines.
- b. Indicate foundation walls and footings below grade.
- c. Indicate window operation (if operable).
- d. Indicate all light fixtures, service connections, HVAC louvers or fan units and hydrants.

## **5. Building Sections/Wall Sections**

- a. Indicate all wall, floor, ceiling, foundation, and roof components including structural members, fire-rated assemblies, plumbing, HVAC, and specialty equipment.
- b. Indicate all dimensional heights indicating floor heights, ceiling heights, window and door openings, wall component dimensions, etc.
- c. Indicate the R values of all insulation materials, methods of air sealing, etc.
- d. Indicate methods for integrated pest management.

## **6. Stair Plan(s), Sections, and Details**

- a. Provide a detailed section through the stair shaft showing all wall assemblies, floor assemblies, and roof assembly.
- b. Provide details of stair landings, risers, treads, handrails, etc.; dimensions of overall floor to floor heights, stair landings, risers, treads, handrails, etc.; notations of all materials; and fire ratings of all assemblies and smoke vent(s).

## **7. Elevator Plans, Sections, and Details**

- a. Provide details of foundations, conditions at each floor level and conditions at the roof level.
- b. Indicate all fire stopping, fire-rated construction, and flashing.
- c. Provide elevator sump pit details and provide notations for all materials and components.

## **8. Interior Elevations**

- a. Indicate all major components, including cabinets, soffits, sinks, appliances, countertops, lighting, and any special features.
- b. Provide dimensions for all critical heights.
- c. Indicate special details, such as Accessibility requirements.

## **9. Door Schedule, Type, and Details**

- a. Provide a door schedule(s) that is coordinated with a hardware schedule(s).
- b. Indicate door height, width, thickness, material, door type, louvers, glazing, frame type, frame material and fire rating, as applicable.
- c. Indicate door types, dimensioning all locations of louvers and/or glass panels.
- d. Detail all door type conditions at head, jamb, and sill.

## **10. Window Schedule, Types, and Details**

- a. Provide sufficient detailing to indicate window types, heights, unit dimensions and rough opening/masonry opening dimensions.
- b. Provide details of all window type conditions at heads, jambs, and sills.
- c. Indicate minimum opening dimensions for emergency escape and rescue openings.
- d. Indicate window opening fall protection and window opening control devices where applicable.

## **11. Finish Schedule**

Provide a finish schedule of spaces to indicate:

- a. Base material and floor finish material.
- b. Wall material and finish.
- c. Ceiling material, finish and height.

## **12. Miscellaneous Details**

Provide all details, notations, reference standards, etc. required to sufficiently direct the construction of the project.

## **13. Structural Plans and Details**

- a. Provide structural plans/layout for all building levels and foundation.
- b. Provide details of all connections at wall assemblies, floor assemblies and roof assemblies. Include notations of materials, dimensions, etc.
- c. Indicate loading and performance standards required for the project including seismic, wind loads, live and dead loads, snow loads, soil bearing capacity, etc.

#### **14. Heating, Ventilating and Air Conditional (HVAC)**

- a. Provide floor plans to indicate locations of all HVAC equipment including exhaust fans, grilles, registers, furnace/boilers, heating and air conditioning elements, ducts, piping, fire dampers, valves, tanks, service connections, etc. Identify and coordinate all components with a drawing symbols legend.
- b. Provide schedules of HVAC equipment.
- c. Provide riser diagrams for heat system piping.
- d. Provide ductwork layouts and detailing. Indicate performance standards for the project.

#### **15. Plumbing**

- a. Provide floor plans to indicate locations of all plumbing equipment including plumbing fixtures, supply and return piping, valves, gates, tanks, heaters, connections to service mains, etc. Identify and coordinate all components with a drawing symbols legend.
- b. Provide riser diagram(s) as necessary to show all piping connections, vent pipes, water and sewer connections, fixture connections, traps, valves, etc.
- c. Provide plumbing fixture schedules.
- d. Provide plans, detail notations and performance standards for fire suppression systems. Drawings may be included within the plumbing series or in a separate Fire Protection drawing series.

#### **16. Electrical**

- a. Provide floor plans to indicate locations of lighting, power, wiring connections, panel boxes, telephone and data connections, transformers, etc. Identify and coordinate all components in a symbols legend.
- b. Provide site plans that indicate locations of all exterior lighting, outside outlets, pad mounted or buried transformers, generators, pull boxes, wiring, connections to existing utilities, etc.
- c. Provide equipment and lighting schedules.
- d. Provide plans, details, notations and performance standards for fire detection and alarm systems. Drawings may be included within the electrical series or in a separate Fire Alarm drawing series.

#### **17. Project Manuals**

In addition to the construction drawings, all pertinent information regarding the construction of a project must be bound together into a Project Manual. The project architect must prepare a manual containing the following information:

- a. At a minimum, the Project Manual must contain the following Front End Documents:
  - Bidding information, if applicable.
  - Applicable regulatory requirements of federal labor standards (Davis-Bacon Related Acts), clauses for labor standards required for the program and applicable proposed wage rates.
  - Proposed AIA Owner/Contractor Agreement including the provisions outlined in this document and the HTFC Legal Documents Manual.

- Include subsurface investigation results to ascertain the subsurface conditions where foundations, utilities and other major excavations will occur. Bid and construction documents shall include the results of this investigation. The construction contract shall reference and include work required as a result of this investigation.
- b. The technical specification sections must contain a descriptive detailed account of all products and work to be performed, as indicated elsewhere in the construction documents. Organize all information using a 3-part, Construction Specification Institute (CSI) section format:
  - Part 1, General: Defines specific administrative and procedural requirements, performance standards and warranty requirements.
  - Part 2, Products: Describes in detail the quality of items and products for the project.
  - Part 3, Execution: Describes in detail preparatory actions, installation procedures, etc.
- c. Project manuals shall include a title page with the following information:
  - Name of applicant/owner.
  - Name and location of project site.
  - HCR (SHARS ID) number.
  - Name and contact information of the architectural firm.

## **Cost Estimate**

Provide an updated construction cost estimate to reflect the current scope of work costs.

## **Government and Environmental Approvals**

1. Submit documentation from the State Historic Preservation Office and National Park Service, as applicable, indicating the final determination/conditions for the project, if not previously submitted.
2. Submit State Environmental Quality Review Act determinations when performed by the local municipality.
3. Submit any Federal, State or local permits or other approvals required to comply with environmental or other applicable regulations.
4. Submit documentation and written approval of any variances from the applicable building code.

## **Bid Documents**

Before projects choose to utilize a competitive bidding process, project applicants are required to submit bid documents to HCR. Bid documents are to be accepted by HCR. Bid documents shall include all documentation necessary for a potential bidder to fully evaluate the proposed project. The specific due date for this submission will be established by the funding program managers.

Project applicants choosing to apply for funding with a builder as part of their development team shall include a guaranteed, fixed price contract that is set for the total development cost of the



project. This fixed price contract is submitted at the time of application for funding. Bid documents are not necessary when the builder is pre-selected as part of the development team at application.

## **Contract Documents**

Prior to a construction loan closing, submit the contract documents, which include the construction documents to HCR for acceptance. The specific due date for this submission will be established with the funding commitment. The following contract documents are required:

1. All projects:
  - a. Two complete sets of the final construction documents, if not previously submitted.
  - b. An enumeration of documents, that includes all drawings, specifications and addenda with the most current revision date.
  - c. A copy of the Owner/Contractor agreement that references the above enumeration of documents once accepted by HCR architects.
  - d. Documentation that the contract meets the construction contracting requirements of the applicable program(s) funding the project. For example, projects funded by or following the Multifamily Finance 9% Competitive Process shall meet requirements in the Capital Programs Manual that limits profits and other builder's fees. Minimum documentation shall include a payment breakdown of the contract amount while identifying major subcontractors and suppliers for each major trade as outlined by the specification, or by each subcontractor and supplier.
2. Projects utilizing Agency funds for construction financing shall also include:
  - a. Provisions outlined in the Appendix.
  - b. A copy of the contractor's 100% Payment and Performance Bond.
  - c. Proof of all required insurances in accordance with the applicable program(s) funding the project.
3. Projects without a pre-selected builder shall also include:
  - a. A bid tabulation with at least three qualified bids for the project.
  - b. Identification of the proposed selected bidder for the contract award. If the proposed contractor is not the apparent low bidder, written justification for such a selection must accompany the submission.
4. Two paper copies of the building permit for the project, or an electronic PDF file.

## **Certifications**

The project architect, general contractor and owner shall certify to the Agency that the project complies with local government, State and Federal Accessibility requirements by submitting the "New York State Homes and Community Renewal Affidavit of Project Compliance with Accessibility Requirements" at the time of the construction loan closing.

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## Construction Administration

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### Change Orders

Change orders are to be prepared on form AIA G701, or equivalent alternative. Change orders are to be submitted in a timely manner to allow HCR to properly analyze the change and review conditions in the field. Change orders are subject to the maximum builder fees allowed by the program funding. For work scope performed by subcontractors, builders may only charge up to 6% to cover additional general conditions (as defined in the Capital Programs Manual), insurance and bonds.

The owner should not sign a change order until it has been accepted by HCR, otherwise, the use of contingency or other funds for this work may be in jeopardy. Change orders should be submitted to the HCR construction monitor and architect for review and acceptance prior to the builder performing the work. Performing the work of a change order prior to HCR acceptance is at the risk of the owner and builder. HCR will not be responsible for costs or additional work resulting from proceeding prior to HCR acceptance. HCR will not recognize change orders for work that is first brought to the attention of the Agency after Substantial Completion, or a Temporary or Permanent Certificate of Occupancy has been issued.

Change order submissions shall include the following:

1. A completed change order form containing the number of the change order, date and detailed description of the work.
2. The cost of the work (credit, debit, or no cost).
3. Estimated time extension to the contract, if applicable.
4. The builder's written proposal for the cost of the work, including labor and materials broken-down, in sufficient detail to be evaluated for cost reasonableness.
5. The signatures of the project architect and builder.
6. Drawing(s) of the proposed change, if applicable.
7. Photographs of the affected areas, if appropriate.
8. A narrative from the project architect describing the change and a justification for the change, including an analysis of the proposed costs.

### Emergency Change Orders

HCR recognizes that occasionally there are emergency circumstances where immediate action is needed much sooner than the standard timeframe for processing change orders. Such emergency change orders are those circumstances that would force a shutdown of the work for an unreasonable amount of time or create a life safety hazard. The owner must obtain the

builder's maximum price for the work, which must be agreed upon by the owner/awardee and project architect. The owner, or designee, must notify the HCR construction monitor immediately of the need to proceed with an emergency change order and provide the agreed-upon cost. The construction monitor will endeavor to conduct a site visit as soon as possible and will confer with the HCR architect. Once the emergency has been addressed, a change order in accordance with the standard change order process shall be submitted.

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## **Project Closeout Submission**

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1. Final as-built drawings must comply with the following:
  - a. Final submission of electronic as-built drawing files shall be submitted in PDF format on two USB flash drives.
  - b. Each copy shall be labeled with the project name, SHARS # and contents. Flash drives may be labeled directly on the drive cover or with an attached key ring label.
  - c. A preliminary submission of the final drawings printed on bond paper *may* be submitted for review before producing the final electronic as-built set.
  - d. Include a PDF file that explains the contents on the USB flash drives.
  - e. Save electronic drawing files in folders and with names that correlate to the construction documents.
  - f. Drawing files shall be a reproduction of the complete construction drawings that are updated to reflect changes made during the construction of the project and with added information, as necessary, to explain aspects of the project in further detail.
  - g. Label all sheets with an as-built drawing title and final date. Any sheets with no changes shall state that no changes have been made from the construction document set.
  - h. Include information relevant to each drawing and exclude extraneous information and details not related to the construction document or as-built conditions.
  - i. Provide any details added to the contract set of drawings issued during construction by the project architect for change orders and supplementary instructions.
  - j. Add sheets which include shop drawings, manufacturer's data, or details from product submissions issued during construction when these documents explain this information in better detail. (Boilers, schematics of controls, and piping are good examples.)
  - k. Update the drawing index to indicate changes made by adding or deleting drawings from the original contract drawings.
  - l. Ensure that special attention is given to explain locations along with dimensions of buried utilities and structures, utility valves and shut-offs, electrical controls, and other maintenance devices.
  - m. The as-built submission shall include a cover memo from the project architect stating they have reviewed the submission and are satisfied that it is complete, well-coordinated, contains no unclear duplications, and that they are not aware of inaccuracies.

2. Photographic documentation that provides a full record of the “as-built” conditions may be utilized as an alternative to as-built record drawings if the system utilized meets or exceeds the following criteria:
  - a. Photographic documentation and related services are provided by an independent third-party service that specializes in construction photography of as-built conditions.
  - b. Photographs are keyed to the construction documents.
  - c. Photographs are taken at a suitable frequency at each location and include individual rooms (generally three times each) to record the following conditions: buried utilities, foundations, rough-in utilities, framing and superstructure, systems and controls, special features, and finished construction.
  - d. The documentation includes product and warranty information of building systems, components, and finishes. Sufficient documentation of building products and warranties will satisfy the warranty submission below.
  - e. The documentation includes training video sessions of HVAC and other building systems for the use of maintenance staff.
  - f. The documentation includes a letter from the firm responsible for the service stating that the final submission includes a complete record of the as-built conditions.
  - g. The documentation is a PDF file suitable for archiving purposes and submitted on two USB flash drives.
  - h. Provide a full set of the most recent version of the construction documents with change orders and supplemental drawings issued during construction as PDF files included on two USB flash drives to accompany the photographic documentation.
3. Warranties shall comply with the following:
  - a. Have a minimum one-year materials and labor warranty on all components and building systems.
  - b. Include all product warranties referenced in these Guidelines and all others required in the project with a warranty period of more than one year.  
The following warranties, while not inclusive, must be submitted: roofing system, doors, door hardware and accessories, windows, flooring, specialties, mechanical systems, electrical systems, and plumbing systems.
  - c. Include properly labeled PDF files of each warranty organized in subfolders in a separate warranty folder. Submit on the two USB flash drives that contain the as-built drawing files.
4. Other Submissions:  
In addition to the above, provide copies of the following at construction completion and prior to project closeout:
  - a. Applicable third-party clearance reports and testing result summaries for hazardous material mitigation, such as:
    - Closed building radon testing performed prior to occupancy.
    - Asbestos clearance report(s).
    - Lead-based paint clearance or abatement report(s).
    - Other mitigated hazardous conditions, such as mold mitigation, removal of underground petroleum or other hazardous material storage tanks, etc.

- b. Final Certificate(s) of Occupancy.
  - c. Project architect's Certificate of Substantial Completion (AIA G704).
  - d. Contractor's final application for payment (AIA G702/703) certified by the project architect.
  - e. Contractor's Affidavit of Release of Liens (AIA G706A).
  - f. Contractor's Affidavit Payment of Debts and Claims (AIA G706).
  - g. Final summary report by the energy consultant.
  - h. Certification from the energy efficiency program, if applicable.
  - i. Final summary report by the green building consultant, if applicable.
  - j. Certification from the green building program, if applicable.
5. Building Systems:
- It is strongly recommended to record and provide videos of training sessions for HVAC systems and other building systems for the benefit of building maintenance staff.

# Appendix C - Area Calculations

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## Application

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The area calculations outlined in this Appendix are to be used for all buildings in the project to provide a consistent format for determining the area of residential buildings and any nonresidential space in mixed-use buildings.

Area calculations should be categorized for all spaces of buildings into three predefined categories; **Dwelling Unit Space**, **Residential Common Area** and, when applicable, **Nonresidential Space**. Any spaces within buildings that are shared between residential and nonresidential uses, such as a common lobby, shall be prorated by the total area affiliated with each use as a percentage of the total building area. Any alternative method to prorate the impact of each use may be acceptable if it can be justified that the alternative is a more accurate methodology. Alternate means of prorating the impact of mixed-use shared spaces shall be presented to HCR Design, Construction & Environmental Unit for consideration. See the *Sample Area Calculation Diagrams* in this Appendix for further clarification.

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## Definitions / Method of Measurement

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**Dwelling Unit Space** is defined as all spaces that are inclusive in a dwelling unit such as living, dining, kitchen, bedroom, bath, storage/closet, and circulation spaces. This shall include any mechanical closets and chases that serve the dwelling unit. Remote bulk storage shall be included as part of the Dwelling Unit Space up to the areas listed in the bulk storage table in the HCR Design Guidelines.

**Residential Common Area** is defined as all spaces of the building, other than those defined as Dwelling Unit Space. In a residential building, all areas, other than the dwelling unit area shall be considered Residential Common Area. In a mixed-use building, areas that are provided for the exclusive use and/or benefit of the residents shall be considered Residential Common Area. This includes, but is not limited to, hallways, stairways, lobby, mechanical rooms, mailroom, manager's office, laundry room, janitor closet, community room, etc. Chases that serve Residential Common Areas shall be considered as part of the Residential Common Area.

For new construction projects with a basement, the entire basement area shall be included. Basement space(s) may be excluded in existing buildings where the space(s) are not being renovated and are only occupied by incidental uses that are off-limits to the residents, such as mechanical and trash areas.



**Nonresidential Space** is defined as any space that is not for the exclusive use and/or benefit of the residents. Examples of Nonresidential Space include civic space, commercial space, public day-care centers or other Community Service Facilities, organizational offices, training rooms, counseling offices, etc.

**Interior gross area** of any space is defined as the area measured from the interior face of the interior finish of exterior walls to the centerline of common wall(s) separating adjacent common space or dwelling unit(s). Walls and partitions within these boundaries are to be included in the interior gross area.

**Gross area** of a space is defined as the area of a space including exterior walls and to the centerline of common wall(s) separating adjacent common space or dwelling unit(s). The total gross area of all spaces shall equal the total gross building area.

Balconies, decks, patios and other exterior areas (covered or non-covered) are to be excluded from building area calculations.

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## Instructions

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### **General:**

1. Create unique names for dwelling unit types (i.e., A1-1 bedroom, A2-1 bedroom), and include all dwelling types in the table. If similar dwelling unit types have different interior gross areas, create unique names. Do not indicate the averages of these dwelling unit types.
2. Include the applicable tables and diagrams in the project's drawing set.

### **Area Calculation Diagrams:**

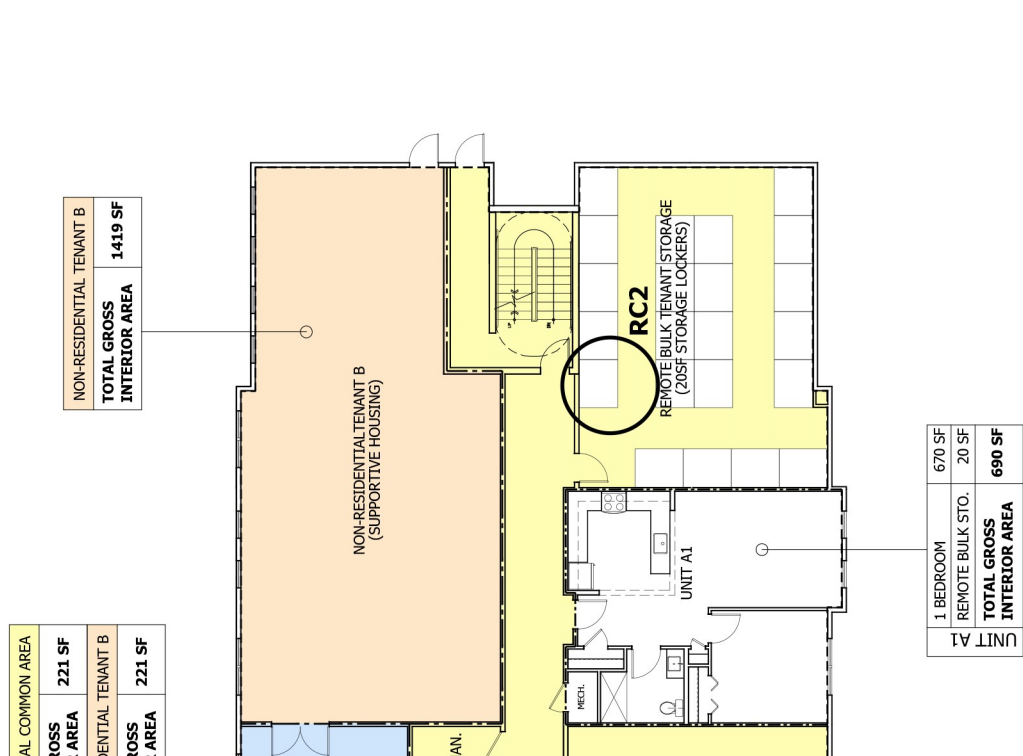
1. Create a diagrammatic floor plan that clearly conveys the pre-defined space categories at each floor (Dwelling Unit Space, Residential Common Area and Nonresidential Space).
2. Include tags for each type of space that includes the space or dwelling unit name, the number of bedrooms (for dwelling units), the gross interior area for that space, and any remote bulk storage that is included in the dwelling unit interior gross area.
3. Plan diagrams shall be color-coded with distinct light/translucent colors to ensure legibility. Utilize the following colors for the diagram:
  - Dwelling Unit Space – White/No Color
  - Residential Common Area – Yellow
  - Nonresidential Space – Muted Orange or Red
  - Shared Spaces – Blue
4. Transcribe all areas into the Area Calculations tables.

**Area Calculations Form/Tabulations:**

1. A copy of this form is available with the application documents.
2. Fill-in the building identification on the top of Table One under the "Total Residential Area" tab. The building identification will auto-populate onto all of the other tables under the other tabs. The building identification shall match that on the plans.
3. Fill-in the tables on each tab as necessary to identify the areas of all spaces in the project. The identification of all spaces shall match that on the plans.
4. Use the blank spaces provided in the tables for adding alternate or additional room types.
5. Include one file for each building or building type in the project.
6. One file may be used for multiple identical building types. Indicate the number of identical buildings and fill in the total number of identical room types (the total of all identical buildings) in the tables.
7. For projects with multiple buildings that are not identical, provide a separate file that includes a table to summarize the residential and nonresidential spaces in a manner that is consistent with the tables on this form. This file shall indicate the total interior gross areas and the total gross areas that includes exterior walls as an aggregate total for all buildings in the project.
8. If the project is more complex than allowed for in these tables, provide an equivalent substitution.

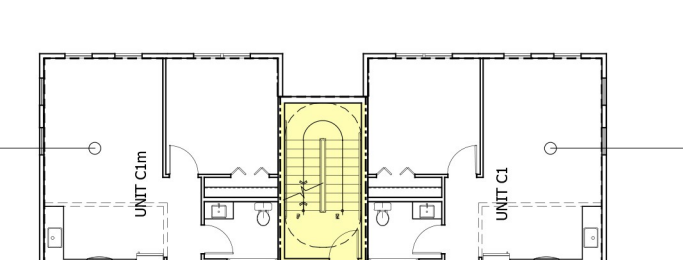
NOTE: PLANS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE INTENT OF THIS DIAGRAM IS TO ILLUSTRATE AN ACCEPTABLE MEANS OF DEMONSTRATING THE INTERIOR GROSS AREA MEASUREMENTS OUTLINED IN THE HCR DESIGN GUIDELINES. IT IS IN NO WAY INTENDED TO BE A REPRESENTATION OF A RESIDENTIAL BUILDING DESIGN THAT MEETS ALL OF THE HCR DESIGN GUIDELINE REQUIREMENTS AND RECOMMENDATIONS.

- THE HCR DESIGN GUIDELINES  
SERVE RESIDENTIAL COMMON  
IN THE NON-RESIDENTIAL AREA.



NOTE: PLANS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE INTENT OF THIS DIAGRAM IS TO ILLUSTRATE AN ACCEPTABLE MEANS OF DEMONSTRATING THE INTERIOR GROSS AREA MEASUREMENTS OUTLINED IN THE HCR DESIGN GUIDELINES. IT IS IN NO WAY INTENDED TO BE A REPRESENTATION OF A RESIDENTIAL BUILDING DESIGN THAT MEETS ALL OF THE HCR DESIGN GUIDELINE REQUIREMENTS AND RECOMMENDATIONS.

UNIT C13	2 BEDROOM	842 SF
	REMOTE BULK STO.	20 SF
	<b>TOTAL GROSS INTERIOR AREA</b>	<b>862 SF</b>



UNIT C1	2 BEDROOM	842 SF
	REMOTE BULK STO.	20 SF
	<b>TOTAL GROSS INTERIOR AREA</b>	<b>862 SF</b>

# AREA CALCULATION DIAGRAM REFERENCE

## MEASUREMENT DETAILS; INTERIOR GROSS AREA

NOTE: PLANS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE INTENT OF THIS DIAGRAM IS TO ILLUSTRATE AN ACCEPTABLE MEANS OF DEMONSTRATING THE INTERIOR GROSS AREA MEASUREMENTS OUTLINED IN THE HCR DESIGN GUIDELINES. IT IS IN NO WAY INTENDED TO BE A REPRESENTATION OF A RESIDENTIAL BUILDING DESIGN THAT MEETS ALL OF THE HCR DESIGN GUIDELINE REQUIREMENTS AND RECOMMENDATIONS.

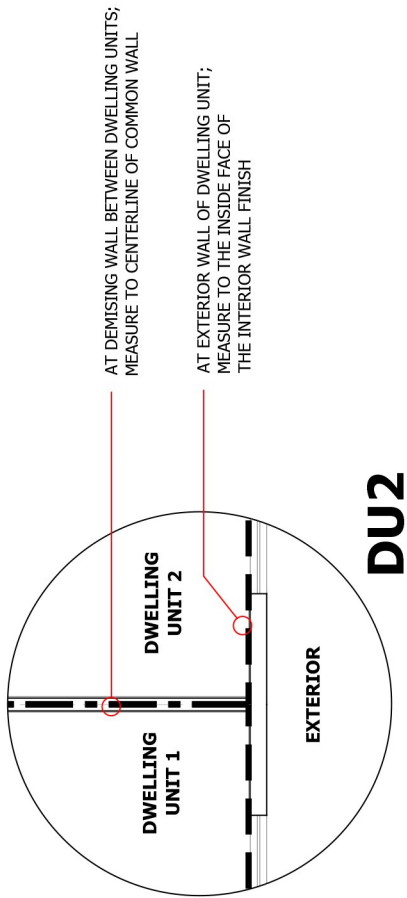
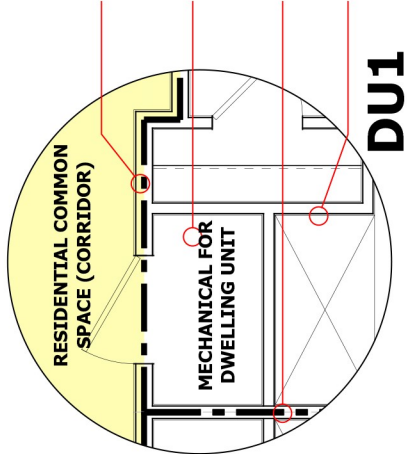
### DIAGRAMS SHOULD CONVEY THE FOLLOWING INFORMATION:

- INTERIOR GROSS AREA FOR EACH DWELLING UNIT, INCLUDING ANY REMOTE BULK STORAGE
- ALL RESIDENTIAL COMMON SPACE
- ALL NON-RESIDENTIAL SPACE
- ANY SPACES SHARED BY RESIDENTIAL AND NON-RESIDENTIAL PROGRAMS AND THE APPLICABLE AMOUNT OF AREA ATTRIBUTED TO EACH TYPE OF SPACE

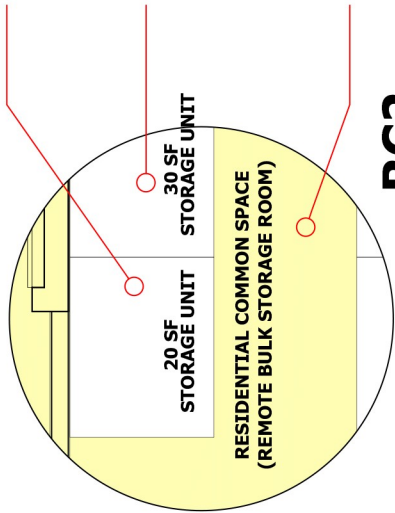
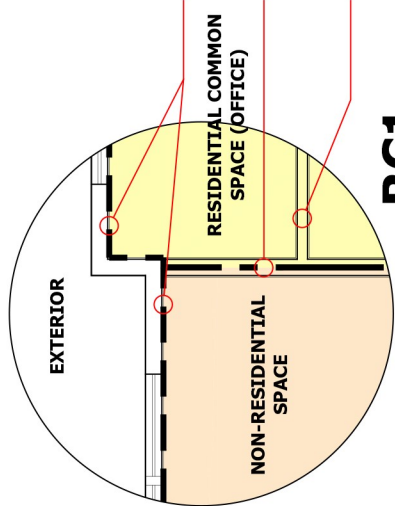
### NOTES:

- CALCULATIONS FOR INTERIOR GROSS AREA SHALL BE PER THE INSTRUCTIONS IN APPENDIX C OF THE HCR DESIGN GUIDELINES
- DWELLING UNIT SIZES MAY ONLY BE INCREASED TO INCLUDE REMOTE BULK STORAGE UP TO THE AREAS LISTED IN THE BULK STORAGE TABLE OF THE HCR DESIGN GUIDELINES
- THE AREA OF CHASES THAT SERVE DIRECTLY TO DWELLING UNITS SHALL BE INCLUDED IN THE DWELLING UNIT AREA. THE AREA OF CHASES THAT SERVE RESIDENTIAL COMMON SPACES SHALL BE INCLUDED IN RESIDENTIAL COMMON AREA. THE AREA OF CHASES THAT SERVE NON-RESIDENTIAL SPACES SHALL BE INCLUDED IN THE NON-RESIDENTIAL AREA.
- NAMES FOR DWELLING UNIT TYPES SHOULD BE CARRIED TO APPENDIX C TABULATIONS

## INTERIOR GROSS AREA AT DWELLING UNITS:



## INTERIOR GROSS AREA AT NON-RESIDENTIAL SPACE AND RESIDENTIAL COMMON SPACE:



REMOTE BULK STORAGE SPACE SHALL BE CALCULATED AS PART OF THE DWELLING UNIT AREA. (ACTUAL DWELLING UNIT AREA + REMOTE BULK STORAGE AREA = TOTAL DWELLING UNIT AREA)

ANY ADDITIONAL BULK STORAGE SPACE IN EXCESS OF THE AREAS LISTED IN THE BULK STORAGE TABLE OF THE DESIGN GUIDELINES SHOULD BE ATTRIBUTED TO RESIDENTIAL COMMON SPACE (I.E. IN A 30SF REMOTE BULK STORAGE UNIT, 20SF SHALL BE ATTRIBUTED TO THE AREA OF A 1-BEDROOM AND 10SF SHALL BE ATTRIBUTED TO THE RESIDENTIAL COMMON AREA)

ALL OTHER AREAS WITHIN A BULK STORAGE ROOM THAT ARE NOT ATTRIBUTED TO THE DWELLING UNIT AREA SHALL BE CONSIDERED RESIDENTIAL COMMON SPACE INCLUDING ACCESS AISLES AND ADDITIONAL STORAGE SPACE



An Excel version of the Area Calculations Form is available as in the Multifamily Finance 9% Application.

1. Refer to the *Appendix C - Area Calculations* document on the HCR website for detailed instructions on how to complete this form.
2. Complete Tables 1-3 for each building or building type. If there is more than one building type, unhide Rows K:CV as necessary.
3. The building identification (Building \_\_ of \_\_) must match that on the plans.
4. Fill in the tables to identify the areas of all spaces in the project. The identification of all spaces must match that on the plans.
5. Use the blank spaces provided for adding alternate or additional room types. If additional lines are needed, unhide the rows above the "Totals" lines.
6. One set of tables may be used for multiple identical building types. Indicate the number of identical buildings and fill in the total number of identical room types across all the identical buildings.
7. For projects with multiple buildings that are not identical, also complete Table 6.
8. Area Calculation Diagrams that correspond with the tables below must be submitted in PDF format as part of Tab J-4, Preliminary Plans.

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### Table 2: Residential Common Space

Building      0 of      0					
Residential Common Space	Number of Each Space	Interior Gross Area Each Space	Total Interior Gross Area	Gross Area Including Exterior Walls Each Space	Total Gross Area Including Exterior Walls
Lobby & Vestibules			0		0
Corridors & Stairs			0		0
Laundry(ies)			0		0
Mechanical Room(s)			0		0
Office Space(s)			0		0
Community Room(s)			0		0
Community Kitchen			0		0
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Totals	0		0		0

### Table 3: Non-Residential Space

Building	0 of	0			
Non-Residential Space	Number of Each Space	Interior Gross Area Each Space	Total Interior Gross Area	Gross Area Including Exterior Walls Each Space	Total Gross Area Including Exterior Walls
			0		0
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Table 4: Total Residential Interior Gross Area Percentages		
Building	0 of	0
Total Residential Space	Total Interior Gross Area	Percent of Total Interior Residential Gross Area
Residential Dwelling Unit Space	0	
Residential Common Space	0	
Totals	0	

Table 5: Total Building Gross Area		
Building	0 of	0
Building Totals	Total Interior Gross Area	Total Gross Area Including Exterior Walls
Residential Dwelling Unit Space	0	0
Residential Common Space	0	0
Non-Residential Space	0	0
Totals	0	0

For projects with multiple building types, unhide Columns K:CV as necessary. If there are more than 10 building types, copy and paste additional tables to the right as necessary.

For projects with multiple building types, also complete Table 6 below.

Table 6: Summary of Multiple, Non-Identical Buildings		
Project Totals	Total Interior Gross Area	Total Gross Area Including Exterior Walls
Residential Dwelling Unit Space		
Residential Common Space		
Non-Residential Space		
Totals	0	0

# Appendix D - Owner/Architect Contract Provisions

For projects following the construction loan process, if the AIA Document *B101™ – Standard Form of Agreement Between Owner and Architect* is used, the following information shall be included as referenced below. If any other Owner-Architect agreement documents are used, include equivalent provisions in the appropriate sections. Any agreement document other than an AIA B Series document must be approved by HCR prior to its implementation.

## 1. *Architect's Responsibilities*

- a. The Architect shall use his/her best efforts to assure the Contractor's compliance with the Contract Documents.

## 2. *Scope of Architect's Basic Services*

- a. In addition to the Basic Services listed in the AIA B Series document, the Architect shall provide the following Supplemental Services as part of Basic Services Compensation:
  - As-constructed record drawing services (Note that the Owner is responsible for providing as-constructed record drawings to HCR. It is at the Owner's discretion how these drawings will be produced; however, the Architect must, at a minimum, review the as-constructed record drawings and provide a formal letter of acceptance of the drawings to HCR.)
- b. *Construction Phase Services* - The Architect's contract shall terminate after:
  - The correction and completion of punch list items by the Contractor.
  - After the Architect issues the final certificate for payment.
  - Satisfactory completion of the closeout submissions that the Architect is responsible for.
- c. *Evaluations of the Work* - The Architect shall keep the Owner informed of the progress and quality of the work by performing site visits at a minimum interval of twice per month or as appropriate for the progress of the work.
- d. *Changes in the Work* - All proposed changes in the work must be accepted by HCR.

## 3. *Copyrights and Licenses*

- a. If this agreement is terminated before the completion of the Architect's services, the Owner may use the drawings, specifications, and other documents prepared by the Architect to retain another licensed Architect. The newly retained Architect may utilize any or all of these documents but would assume professional liability.

## 4. *Compensation*

- a. Compensation for the Architect's services shall be a stipulated sum or fixed fee amount. All expenses of the Architect are to be included in the Basic Compensation.
- b. Compensation for Additional Services of the Architect's consultants shall be computed as a multiple of 1.10.
- c. A design professional's percentage of fee should generally comply with the following schedule of phases:

- Preliminary phase < 15% fee.
  - Design Development phase < 20% fee.
  - Construction Documents < 40% fee.
  - Bidding/Negotiating < 5% fee.
  - Construction Monitoring > 20% fee.
- d. *Compensation for Reimbursable Expenses* - Reimbursable expenses shall be computed as a multiple of 1.00 and shall be identified as a stipulated amount or a not to exceed dollar amount.
5. Provide insurance as required by the applicable funding source.
6. The Architect shall be responsible for coordinating the work of all sub-consultants and other consultants hired by the Owner that are providing building design services necessary for the project.

# Appendix E - Construction Contracting Requirements

At the time of application, the applicant must identify one of two options available to secure a construction contractor. The first option is for the applicant to seek construction bids through a publicized, competitive process. The second option is for the applicant to identify and select a builder at the time of the application submission. The requirements for both options are explained below.

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## Publicized, Competitive Bidding Process

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Applicants electing to publicly and competitively bid the construction portion of their project must indicate this elective at the time of the application submission.

This method of contractor selection requires the applicant to openly advertise in a well-known local newspaper for a period of four days and have a minimum bidding period of four weeks before bids are received. MBE/WBE outreach requirements will be part of the bidding process. Upon receipt of bids, the applicant and the architect must notify HCR of the bidding results. The contractor's schedule of values must also be submitted to HCR at that time. HCR reserves the right to require that the project be rebid or negotiated to reduce the scope of work if all bids received are higher than the project's estimated total construction cost.

If no contractor has been selected at the time of application submission, the applicant must ensure that the terms of the Owner/Architect Agreement include a provision for a detailed construction cost estimate based upon the preliminary drawings and specifications prepared by a cost estimator.

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## Pre-selected Builder Requirements

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Applicants who elect to include a builder (general contractor or construction manager (CM) as constructor) with their application for funding will be required to indicate the builder's previous professional experience in producing low income housing units and the role that the builder will play during the development and construction phases of the project.

In addition, a pre-selected builder will be responsible for providing a detailed cost estimate of the construction work based upon the preliminary drawings, specifications, other project criteria, and existing conditions with the application submission. The construction cost estimate must include all builder's fees such as general conditions and general requirements, builder's overhead, and builder's profit. Criteria that are special conditions such as security, impact fees, etc. to a project should be detailed on a separate itemized listing.

All MBE/WBE requirements applicable to the pre-selected contractor must be documented through the contractor's selection process for sub-contractors and suppliers.

In addition to the criteria outlined in these Guidelines, refer to the applicable program requirements for builder's fees, MBE/WBE requirements, selection and contracting requirements for the builder, bonding requirements along with other criteria applicable to the builder's contract and obligations.

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## General Construction Contracting Requirements

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### Owner/Contractor Contract Provisions

For projects following the Construction Loan process, the following information shall be included in the standard Form of Agreement between Owner and Contractor or Construction Manager as constructor:

1. *The Work of This Contract*
  - a. The validity of this construction contract is contingent upon execution of agreements from all construction financing sources.
2. *Progress Payments*
  - a. Progress payments shall be for work satisfactorily completed to date and certified by the project architect.
  - b. A 10% retainage shall be applied to all work until the project reaches Substantial Completion.
  - c. Payments are contingent upon HCR review and approval.
3. *Substantial Completion*
  - a. Upon Substantial Completion of the construction contract, the retainage released by HCR will be calculated based upon whichever of the following results in a greater remaining retainage:
    - A reduction in retainage from 10% to 5%, or
    - The value of incomplete work, as determined by the architect and HCR, multiplied by 2.5.
4. Provide 100% payment and performance bonds and builder's insurance as required by the applicable funding source.

### Manufactured Housing Requirements

Applicants electing to produce housing through the use of a manufactured housing company may choose either of the options above for construction contracting. However, the purchase contract and supervision of such housing must be done as a subcontract to the builder's contract.

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## **Federal Labor Standards**

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See the applicable program requirements and reference material for specific information concerning federal labor standards.

# Appendix F – Energy & Green Building Requirements

The following Energy & Green Building Requirements are part of the Agency’s continued effort to promote safe, healthy, and efficient living environments. [HCR is committed to helping all new and existing affordable housing projects](#) meet the Governor’s greenhouse gas (GHG) emission reduction limits set forth in the Climate Leadership and Community Protection Act (40 percent of 1990 levels by 2030; and 85 percent of the 1990 levels by 2050). Projects receiving HCR financing must adhere to applicable national [and state energy efficiency standards](#), [in addition to the energy efficiency and green building criteria outlined in this Appendix](#).

## Mandatory Agency-wide Standards

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### [HCR Mandatory Green Building Practices](#)

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All projects awarded funding through HCR must [comply with](#) the applicable HCR Mandatory Green Building Practices listed below. Conformance with any of these practices does not replace or substitute compliance with other HCR program funding standards or requirements.

#### **Limiting Lead Exposure**

Include lead-safe work practices and procedures in the rehabilitation of buildings constructed prior to 1978. Residential occupancies (regardless of the age of the occupants), child-occupied facilities, and facilities that provide services for pregnant women shall comply with the most current editions of the HUD Guidelines for the Evaluation and the Control of Lead-Based Paint in Housing, and the EPA Renovation, Repair and Painting Rule. Other nonresidential occupancies or facilities shall comply with all applicable regulations for the removal of lead-based paint hazards. See the “Lead Hazards” section in “Common Regulations Laws and Guidelines” of this document for additional guidance.

[Existing domestic water supply and distribution systems that are to remain must be tested for lead content in accordance with applicable drinking water regulations and guidelines or per HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing \(where municipal regulations do not exist\). Where results for lead content meet or exceed the applicable action levels, domestic water supply piping and fixtures shall be removed and replaced with lead-free plumbing.](#)

#### **Radon Mitigation**

All newly constructed and renovated buildings funded by the Agency and located in EPA Zone 1 or 2 shall address radon in accordance with the EPA Current Radon Standard of Practice for the applicable building type and in accordance with this section. The most common Standards of Practice, published by the American National Standards Institute and the Association of Radon Scientists and Technologists (ANSI/AARST), are listed in the “Common Regulations Laws and Guidelines” section of this document.



New and substantial rehabilitation low-rise residential projects shall install a passive radon mitigation system in accordance with the applicable Standard of Practice, including collectors below the slab and a vent pipe through the roof. Vertical vent pipes shall run at the interior of buildings to avoid frosting inside the vent stack during cold weather. Include electrical junction box(es) above the highest occupied floor level for future system activation.

Moderate rehabilitation low-rise residential projects shall install active radon-reduction measures in accordance with the applicable Standard of Practice should testing at the completion of the rehabilitation confirm the presence of radon gas in the building exceeding the EPA action level. It is highly advisable to include radon reduction measures in the base scope of work to avoid costly retrofits should elevated radon levels be discovered after rehabilitation has been completed.

Mid-rise/high-rise residential projects and nonresidential facilities shall incorporate the methods described above or other radon mitigation measures recognized by the applicable Standard of Practice.

Nonresidential facilities with a limited period of occupancy may omit these methods and measures if it is established by a third party with radon expertise that the limited period of occupancy does not warrant the need for mitigation.

Radon testing in all new and rehabilitation projects shall be conducted at the completion of construction or rehabilitation work, prior to occupancy/re-occupancy. A radon professional shall oversee testing as per the applicable Standard of Practice meeting US-EPA short-term, closed-building testing protocols. Testing prior to rehabilitation work is not recommended because it will not provide an accurate representation of the conditions post-renovation due to increased efficiency in the building envelope and systems. (i.e., increasing insulation levels, reducing air infiltration, replacing windows, changes to the HVAC system, etc.)

Passive radon-reduction systems shall be activated should tests confirm the presence of radon gas in the building exceeding the EPA defined action level of 4pCi/L. If the test results indicate radon concentrations between 2pCi/L. and 4pCi/L., consider activation of the system based on EPA recommendations.

## **Low-VOC Building Materials**

Building materials that have the potential to negatively affect indoor air quality, such as paints, applied finishes, adhesives, and sealants, shall at a minimum meet Green Seal, or an equivalent, low-VOC standard.

## **Integrated Pest Management**

All projects are to incorporate integrated pest management during construction that includes sealing all openings, cracks and joints to prevent the infestation of insect and animal pests from entering the building or migrating from one apartment or common area to another. After occupancy, the building management shall incorporate environmentally friendly pest management strategies and extermination practices that are safe for the health of the residents and the environment. [A service contract or documentation should be provided as part of the project close out binder.](#)

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## HCR Mandatory Energy Efficiency Practices

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All projects awarded funding through HCR must **comply with** the applicable HCR Mandatory Energy Efficiency Practices listed below. Conformance with any of these practices does not replace or substitute for compliance with other HCR program funding standards or requirements.

### ENERGY STAR Appliances

All refrigerators, dishwashers, and clothes washer included in the project or supplied by vendors shall be ENERGY STAR rated. Commercial washing machines may be non-ENERGY STAR rated provided they meet or exceed the energy efficiency, quality, and reduced operational costs associated with ENERGY STAR rated appliances.

### Electric Appliances

**In all New Construction and Substantial Rehab Projects:** All ranges, cooktops, ovens, and clothes dryers included in the project or supplied by vendors shall be electric.

**In all Moderate Rehab Projects:** Include electric ranges, cooktops, ovens, and clothes dryers except where replacement of those appliances is not included in the scope of work, or the cost to install upgraded code-compliant electric panels in dwelling units is cost prohibitive due to existing conditions.

### ENERGY STAR Equipment

All heating and air conditioning equipment shall be ENERGY STAR rated or provide the equivalent in energy savings, quality and operational cost. Equipment shall be considered to meet this requirement where the equipment is deemed to comply with any **NYSERDA or EPA ENERGY STAR program that the project has committed to certify under**, excluding the NYSERDA Multifamily Performance Program for Existing Buildings.

### ENERGY STAR Lighting

All lighting shall be ENERGY STAR rated or provide the equivalent in energy savings and quality. Interior lighting and exterior building lighting shall incorporate ENERGY STAR fixtures or high efficacy lamps. Exterior site lighting shall utilize high efficiency **and Dark Sky approved, or equal** fixtures. All exterior building and site lighting shall include either daylight sensors or timers to minimize daytime electrical usage.

### Water conserving plumbing fixture requirements

All water fixtures listed below must be WaterSense certified, or equal, and no more than the following water flow rates by fixture type:

- a. Toilets – **1.28 GPF, or dual flush (dual flush discouraged in senior housing)**
- b. Showerheads – **2.0 GPM**
- c. Kitchen faucets – **1.5 GPM, or dual flow 1.0 GPM/2.2 GPM**
- d. Bathroom lavatory faucets and all other fixtures in dwelling units – **1.5 GPM**

# Tax-Exempt Bond and Subsidy Applications (4% LIHTC) Green and Energy Efficiency Requirements

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## Climate Bond or Green Bond Certification through CBI

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All **new construction** projects seeking HCR financing resources through Tax-Exempt Bond and Subsidy Applications (4% LIHTC Projects) administered through HFA are required to adhere to the standards established by the Climate Bond Initiative (CBI). The U. S. Environmental Protection Agency (EPA) Energy Star programs serve as a proxy to meet the CBI low carbon performance criteria. Complying with these standards will enable projects to have their bonds certified as Climate Bond or Green Bonds. Projects must comply with one of the Energy Star Programs defined below.

**Existing buildings** undergoing substantial or gut rehabilitation are to be treated as new construction, and they must adhere to the sustainability standards for new construction to the fullest extent possible. **Historic or adaptive reuse projects** that cannot fully adhere to all of the requirements may request a waiver. The applicant should identify specific areas of noncompliance with the selected standard and provide sufficient documentation for consideration of a waiver.

### **EPA ENERGY STAR Multifamily New Construction Program:**

The U.S. Environmental Protection Agency (EPA) ENERGY STAR Multifamily New Construction (MFNC) program is the current program available for all multifamily residential projects. Projects may qualify following either the performance or prescriptive paths, as currently published by the EPA (ERI, ASHRAE, or Prescriptive paths) **and must be verified by an approved Field Rater.**

The application for funding shall include a signed contract with an EPA approved Certified Rater or energy modeler to provide services required for certification under the EPA Multifamily New Construction Program. The contract must explain the methodology utilized to ensure compliance and final certification and must be signed by both the applicant and the Certified Rater, or energy modeler. In their contract, the energy consultant must explicitly confirm that the Energy Star standard will meet the CBI low carbon criteria for certification as CBI green bonds or 'climate bonds'.

### **EPA ENERGY STAR Certified Homes:**

Projects **not covered under EPA ENERGY STAR Multifamily New Construction Program** should utilize ENERGY STAR Certified Homes Version 3.1, or current program based on the current building code in effect at the time of project's bond financing closing. To meet the standards of CBI, projects must perform 9% more efficiently than Version 3.1 of Energy Star Certified Homes, Revision 09.

The application must include an executed contract between the applicant and a RESNET certified HERS rater which explains the methodology utilized to ensure compliance with the applicable standard. In their contract, the energy consultant must explicitly confirm that the Energy Star standard will meet the CBI low carbon criteria for certification as CBI green bonds or ‘climate bonds’. In lieu of an executed contract, HCR will accept a HERS-based plan review completed by a qualified HERS rater to affirm the project design will meet the high efficiency guidelines of the applicable standard and will meet the CBI low carbon criteria for certification as CBI green bonds or ‘climate bonds’.

(See additional [Energy Efficiency and Green Building Requirements](#) below for alternate compliance options for CBI Certified Climate Bonds / Green Bonds)

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## Energy Efficiency and Green Building Program Requirements

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All new construction projects seeking HCR financing resources Tax-Exempt Bond and Subsidy Applications (4% LIHTC Projects) administered through HFA must select **one or more** of the programs listed below. Since the Energy Star protocol is also used for some of their energy assessment, **those programs can be coordinated to satisfy the CBI requirement** where applicable, as well as to achieve additional sustainability measures.

### **NYSERDA New Construction – Housing Program (NC-H):**

Projects may qualify through participation in the New York State Energy Research and Development Authority (NYSERDA) New Construction – Housing Program (NC-H), and meeting the requirements for ENERGY STAR Certified Homes or the Multifamily New Construction program, as applicable. Projects are encouraged to achieve the highest potential level of energy efficiency and building performance by participating in higher tiers. Please be advised that the level of performance achieved may substantially affect the incentives that can be received from NYSERDA, and any changes in building or energy codes may affect the program version applicable to a project.

The application for funding must include a contract with a NYSERDA qualified Primary Energy Consultant to oversee the design and construction as necessary to meet the program requirements. In their contract, the energy consultant must explicitly confirm that the Energy Star based standard will meet the CBI low carbon criteria for certification as CBI green bonds or ‘climate bonds’.

Applicant are encouraged to consider additional programs and funding opportunities available through NYSERDA as they work towards designing high-efficiency projects with scopes that may include all electric appliances, high-efficiency electric HVAC and domestic hot water systems, carbon-neutral or carbon-neutral ready buildings, solar arrays, and highly efficient building envelopes. These resources can be considered in addition to the incentives available in the New Construction-Housing Program (NC-H), however, all resources must be disclosed in the project’s application for funding.

## **Historic Rehabilitation & Adaptive Re-Use:**

Projects with buildings designated as historic by local, state or federal authorities undergoing a substantial rehabilitation or adaptive re-use, that cannot fully implement one of the other standards described below without negatively affecting the historic building characteristics, shall enroll in the New Construction – Housing Program (NC-H) to achieve the New York Energy Smart or equivalent designation offered by participating in one of those programs. The applicant's development team shall work with NYSERDA and HCR to implement the applicable provisions of these programs.

The application must include an executed contract as noted above for the applicable NYSERDA program. In their contract, the energy consultant must explicitly confirm that the Energy Star based standard will meet the CBI low carbon criteria for certification as CBI green bonds or 'climate bonds' or request a waiver from this requirement when infeasible. The applicant should identify specific areas of noncompliance with the selected standard and provide sufficient documentation for consideration of a waiver.

## **2020 Enterprise Green Communities Criteria**

Projects may qualify by participating in 2020 Enterprise Green Communities Criteria. *Projects in New York City shall utilize the New York City - Enterprise Green Communities overlay.* Choosing this strategy requires full participation in Enterprise Green Communities Criteria, utilizing EPA ENERGY STAR certified Homes Version 3.1, or the EPA Multifamily New Construction program as applicable for the building type.

HCR encourages applicants to consider pursuing Enterprise Green communities Certification Plus if possible when using Enterprise Green Communities as a compliance pathway. The new "Plus" level of certification recognizes significant achievement for projects that meet all certification requirements and have invested in deep levels of energy efficiency, a critical strategy in our changing climate.

The applicant must submit an executed contract with a licensed professional energy consultant to monitor the design and construction as necessary to meet the program requirements of Enterprise Green Communities Criteria and to comply with the mandatory Energy Star criteria. In their contract, the energy consultant must explicitly confirm that the Energy Star based standard will meet the CBI low carbon criteria for certification as CBI green bonds or 'climate bonds'.

## **National Sustainability Standards**

As an alternative or addition to the above standards, HCR may choose to approve projects that prefer to implement deeper sustainability standards set by other nationally recognized leaders in the sustainability and energy efficiency industry. Projects must still demonstrate that they will qualify to be certified as CBI compliant for low carbon performance. Appropriate documentation demonstrating compliance with both the selected alternate program and CBI standards must be submitted to HCR for approval prior to HCR Credit Committee approval in order to participate in one of the alternate programs listed below.

**Leadership in Energy and Environmental Design (LEED):**

US Green Building Council (USGBC) LEED Rating System. At a minimum, projects shall comply with the current, or newer, criteria for LEED version 4 BD+C Homes or LEED version 4 BD+C Multifamily Midrise. If the housing type proposed is not recognized under either of these LEED rating systems, an equivalent LEED rating system may be substituted upon agreement by HCR. The applicant shall submit an executed letter of agreement with a LEED Green Rater to monitor the design and construction as necessary for LEED certification.

**Passive House Institute US (PHIUS) or Passive House Institute (PHI):**

Projects may utilize either PHIUS or PHI programs. Certification shall be obtained under PHIUS+ 2015 Passive Building Standard – North America, or newer, based on the construction timeframe, or certified under PHI protocols. The applicant shall submit a form of a receipt from PHIUS or PHI that the project was accepted into their program, or submit an executed letter of agreement between the applicant and a PHIUS or PHI certified Passive House consultant or designer (CPHC or CPHD) that includes monitoring of the design and construction as necessary for pre - certification and final certification.

Additional information may be found at the following websites:

<http://www.phius.org/home-page>

<http://www.passiv.de/en/index.php>

***National Green Building Standard:***

Current ICC 700 National Green Building Standard. The applicant shall submit an executed letter of agreement with a Verifier accredited by Home Innovation Research Labs to monitor the design and construction as necessary for final certification to the **Gold**, or higher level.

# Multifamily Finance 9% Competitive Process

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## Mandatory Energy Efficiency Strategies

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All projects awarded funding through the Multifamily Finance 9% Competitive Process must participate in **at least one of the energy efficiency strategies described below**. All recommended practices applicable to the construction systems planned for the building must be incorporated. However, the recommended practices shall be secondary where conflicts exist between building codes or HCR standards and requirements, unless a waiver is granted from HCR standards or requirements.

Nonresidential projects shall incorporate comparable energy efficiency strategies as those required for residential projects to achieve similar energy savings.

Please be advised that energy code requirements and the corresponding energy efficiency strategy must be considered when planning the project development schedule. Projects will be responsible, without any additional cost to HCR programs, to comply with the applicable energy efficiency standard and all energy code requirements that the building permit issued for the project is based on.

HCR requires that all projects pursuing solar energy, any other alternative energy sources, or any energy efficiency strategies or green building practices must incorporate the design, operating cost and development cost assumptions associated with those measures into the project by the time an application is submitted for funding. Any changes to the energy efficiency strategy or green building practices after application submission will not be allowed.

### **NYSERDA New Construction—Housing Program (NC-H)**

Projects may qualify through participation in the New York State Energy Research and Development Authority (NYSERDA) New Construction – Housing Program (NC-H), by committing to meet **Tier 2**, or higher, and meeting the requirements for ENERGY STAR Certified Homes or the Multifamily New Construction program, as applicable. Projects are encouraged to achieve the highest potential level of energy efficiency and building performance by participating in higher tiers. Please be advised that the level of performance achieved may substantially affect the incentives that can be received from NYSERDA, and any changes in building or energy codes may affect the program version applicable to a project.

The application for funding must include a contract with a NYSERDA qualified Primary Energy Consultant to oversee the design and construction as necessary to meet the program requirements. The contract must be signed by both the applicant and the Primary Energy Consultant. HCR will accept a HERS-based plan review, completed by a HERS rater recognized by NYSERDA for projects participating under ENERGY STAR Certified Homes that affirms the project design will meet the high efficiency guidelines of the program. Final closeout of the project shall be contingent upon certification from NYSERDA that the project meets the program requirements.



Applicants are encouraged to consider additional programs and funding opportunities available through NYSERDA as they work towards designing high-efficiency projects with scopes that may include all electric appliances, high-efficiency electric HVAC and domestic hot water systems, carbon-neutral or carbon-neutral ready buildings, solar arrays, and highly efficient building envelopes. These resources can be considered in addition to the incentives available in the New Construction-Housing Program (NC-H), however, all resources must be disclosed in the project's application for funding.

### **EPA ENERGY STAR Multifamily New Construction Program**

Projects may qualify following either the performance or prescriptive paths, as currently published by the EPA (ERI, ASHRAE, or Prescriptive paths). The application for funding shall include a signed contract with an EPA approved Certified Rater or energy modeler to provide services required for certification under the EPA Multifamily New Construction program. The contract must explain the methodology utilized to ensure compliance and final certification and must be signed by both the applicant and the Certified Rater, or energy modeler. Final closeout of the project shall be contingent upon certification from EPA that the project meets the program requirements.

### **EPA ENERGY STAR Certified Homes:**

Projects **not covered under EPA ENERGY STAR Multifamily New Construction Program** may qualify by utilizing ENERGY STAR Certified Homes Version 3.1, or newer based on the current building code in effect at the commencement of the construction of a project or otherwise determined by EPA.

The application for funding is to include a contract with a certified Home Energy Rater recognized under the ENERGY STAR Certified Homes program, which explains the methodology to be utilized to ensure compliance and final certification. The contract must be signed by both the applicant and the certified Home Energy Rater. In lieu of a signed contract, HCR will accept a HERS -based plan review completed by a qualified HERS rater to affirm the project design will meet the high efficiency guidelines of the program. Final closeout of the project shall be contingent upon certification from EPA that the project meets the program requirements.

### **2020 Enterprise Green Communities Criteria**

Projects may qualify by participating in 2020 Enterprise Green Communities Criteria. Projects in New York City shall utilize the New York City - Enterprise Green Communities overlay. Choosing this strategy requires full participation in Enterprise Green Communities Criteria, utilizing EPA ENERGY STAR certified Homes Version 3.1, or the EPA Multifamily New Construction program as applicable for the building type.

HCR encourages applicants to consider pursuing Enterprise Green communities Certification Plus if possible when using Enterprise Green Communities as a compliance pathway. The new "Plus" level of certification recognizes significant achievement for projects that meet all certification requirements and have invested in deep levels of energy efficiency, a critical strategy in our changing climate.

The applicant must submit a letter indicating that they are selecting Enterprise Green Communities Criteria as means of compliance with both the mandatory energy efficiency strategies along with a Prebuild application to Enterprise Green Communities (or a letter of agreement with an architect, engineer, or energy consultant that includes oversight of the design and construction as necessary for certification). Final closeout of the project shall be contingent upon certification from Enterprise Green Communities that the standard was met.

### **Alternate Compliance for Rehabilitation Projects**

#### ***Rehabilitation projects that are not eligible to participate in NYSERDA programs:***

Rehabilitation projects that are not eligible to participate in NYSERDA programs due to the location of the project and cannot feasibly comply due to existing conditions with the above energy efficiency standards of Enterprise Green Communities Criteria, or any of the other options in this RFP, may be allowed to participate in another energy efficiency standard in Enterprise Green Communities Criteria upon agreement of HCR. Applicants must request that HCR allow the alternate energy efficiency strategy a minimum of 30 days prior to the application submission.

#### ***Historic Rehabilitation & Adaptive Reuse:***

Projects with buildings designated as historic by local, state or federal authorities undergoing a substantial rehabilitation or adaptive reuse, that cannot fully implement one of the first three standards described above without negatively affecting the historic building fabric, shall enroll in the New Construction – Housing Program (NC-H) to achieve the New York Energy Smart or equivalent designation offered by NYSERDA. The applicant's development team shall work with NYSERDA and HCR to implement the applicable provisions. The application must include a signed contract, as noted above, for the NYSERDA program. Final closeout of the project shall be contingent upon certification from NYSERDA that the project meets the program requirements.

#### ***Moderate Rehabilitation:***

Applicants may: 1) bring existing building(s) that do not meet the current energy code up to the energy code standard for comparable new construction building(s) in effect on the date the building permit will be issued for the project; or 2) demonstrate that the renovated building(s) will reduce overall energy usage by 20%, as compared to average energy usage for the last two years of operation. Proposals for bringing a building to current energy code standards must include a code analysis that is submitted in the application and is prepared by an architect or engineer licensed in the State of New York. Proposals for reducing energy usage by 20% must be demonstrated by either: 1) submitting an energy analysis by an architect or engineer licensed in the State of New York, or RESNET certified HERS Rater, with the application; or 2) by submitting an approved MPP application, or a signed contract with a MPP Multifamily Building Solutions Provider to reduce energy consumption by 20% in accordance with the criteria of the NYSERDA Multifamily Performance Program for Existing Buildings. The contract must be signed by the applicant and the MPP Multifamily Building Solutions Provider. Final closeout of the project shall be contingent upon a final analysis and report, including results of required energy code testing, that certifies that the project meets the chosen goal. Projects participating under MPP shall submit final certification from NYSERDA indicating that the project met the objective of reducing energy by 20%.



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